2026 CSTA PK–12

COMPUTER SCIENCE STANDARDS

Validated Alignment of AI4GA Living & Working with AI

AI4GA Living & Working with AI

Living and Working with AI is a middle-school curriculum co-designed by teachers and university researchers with support from the National Science Foundation. It introduces students to AI through plugged and unplugged activities that help them recognize AI in daily life, understand core concepts, consider societal impacts, explore careers, and build and evaluate AI models. The curriculum includes three thematic units – Autonomous Robots & Self-Driving Vehicles, How Computers Understand Language, and Machine Learning & Automated Decision Making – with 7–8 modules in each unit. Originally created for a 9-week elective, it can be integrated flexibly into computer science and core subject courses from grades 5-9. Since 2021, more than 200 teachers across four states have implemented the curriculum, reaching over 9,000 students and contributing to ongoing refinement.

Learn more: ai4ga.org

Alignment Summary

In June 2026, CSTA conducted a rigorous, independent process to validate how these curricular materials align to the 2026 CSTA PK-12 Standards. This process included reviews by multiple independent experts in the CSTA PK-12 Standards, CS teaching, and CS curriculum design. The findings are presented below in two formats: high-level tables summarizing alignment of the curriculum to each concept and/or specialty area, and more granular tables indicating alignment to each standard. Note that the data below reflects only standards that are fully aligned; in many cases, there is partial alignment not indicated below.

Middle School

Concept	Aligned Standards	Total Standards	Percent Aligned
Algorithms & Design	5	11	45%
Programming	4	9	44%
Data & Analysis	2	9	22%
Systems & Security	0	8	0%
Computing & Society	4	8	50%
Overall	15	45	33%

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High School Specialty

Specialty Area	Level	Aligned Standards	Total Standards	Percent Aligned
Artificial Intelligence	Specialty I	6	14	43%

Alignment to Middle School Foundational Standards

Algorithms & Design

Identifier	Standard	Fully Aligned?
MS-ALG-PS-01	Design an algorithm that includes variables of multiple data types to solve a problem or express an idea.	
MS-ALG-PS-02	Model a given algorithm with a flowchart or pseudocode that includes a combination of control structures and procedures.	
MS-ALG-PS-03	Verify the accuracy of an algorithm for given inputs.	
MS-ALG-PS-04	Justify whether a problem is best solved using procedural instructions, rule-based logic, data-driven methods, or a combination of these approaches.	✅
MS-ALG-PS-05	Use an AI tool to generate outputs that assist in solving a computational problem.	✅
MS-ALG-ML-06	Hypothesize how a machine learning model generates classifications or predictions.	✅
MS-ALG-ML-07	Investigate ways to improve the accuracy of a machine learning model and reduce bias by refining the quality of examples and nonexamples in the training data.	✅
MS-ALG-ML-08	Evaluate the features and limitations of a machine learning model.	✅
MS-ALG-IM-09	Evaluate which human-centered design principles are present or missing in an existing computing technology.	
MS-ALG-IM-10	Examine evidence of beneficial and harmful impacts, ethical issues, and biases of algorithms encountered in daily life.	
MS-ALG-IM-11	Modify an algorithm to address a specific societal impact, ethical issue, or bias.	

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Programming

Identifier	Standard	Fully Aligned?
MS-PRO-PD-12	Use a procedure to structure code for clarity and reusability.	
MS-PRO-PD-13	Use reference documentation in program development.	✅
MS-PRO-PD-14	Justify the importance of attribution and intellectual property when developing computing technologies.	
MS-PRO-PD-15	Develop a program utilizing inclusive collaboration practices.	
MS-PRO-VD-16	Use variables of multiple data types to store, access, and manipulate data within a program.	✅
MS-PRO-RD-17	Analyze the roles of iteration, selection, variables, and procedures in a segment of code.	
MS-PRO-RD-18	Analyze AI-generated code for accuracy and usability in a programming project.	
MS-PRO-TR-19	Use systematic strategies to test, refine, and document changes to a computing technology to meet the intended purpose.	✅
MS-PRO-TR-20	Refine a computing technology based on user feedback to improve its usability and accessibility.	✅

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Data & Analysis

Identifier	Standard	Fully Aligned?
MS-DAT-DC-21	Evaluate how different levels of precision and granularity in data collection affect accuracy, storage, and analysis.	
MS-DAT-DC-22	Explain how data and its associated metadata can be used to answer questions.	
MS-DAT-DC-23	Use a computational tool to sort, filter, group, and summarize structured data.	
MS-DAT-DC-24	Analyze options to address a data quality issue.	
MS-DAT-DI-25	Use a computational tool to identify relationships among variables in a dataset and make a classification or prediction.	✅
MS-DAT-DI-26	Create data visualizations to show how different design choices can impact the interpretation of the same data.	
MS-DAT-DI-27	Summarize a data investigation process, including potential biases, limitations, and supporting evidence.	
MS-DAT-IM-28	Explain the benefits and risks of allowing personal data and metadata to be collected and used in datasets, including issues of data ownership, privacy, and sovereignty.	
MS-DAT-IM-29	Analyze how decisions made at different stages of working with data can lead to biased data, misleading conclusions, and compromised AI models.	✅

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Systems & Security

Identifier	Standard	Fully Aligned?
MS-SYS-HW-30	Examine differences between computing systems based on user needs, system requirements, and potential societal, environmental, and ethical impacts.	
MS-SYS-HW-31	Describe computing devices used in various industries, their basic functions, and how they are used to accomplish tasks or solve problems.	
MS-SYS-SE-32	Explain the effects of not using the CIA triad when working with data.	
MS-SYS-SE-33	Evaluate common types of cyber attacks and preventions.	
MS-SYS-NT-34	Model how information in a network is broken down into packets, transmitted between devices, and reassembled.	
MS-SYS-NT-35	Explain how the resilience of the internet depends on interconnected devices and their roles and functions within the network.	
MS-SYS-IM-36	Collaborate to improve the design of a computing system to meet the needs of diverse users.	
MS-SYS-IM-37	Explain the benefits and risks of allowing personal data and metadata to be collected and used in datasets, including issues of data ownership, privacy, and sovereignty.	

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Computing & Society

Identifier	Standard	Fully Aligned?
MS-SOC-HI-38	Compare the roles of individuals, communities, organizations, and governments in shaping computing technologies across major eras in computing history.	
MS-SOC-HI-39	Analyze intended and unintended impacts of a historical computing technology on society and the environment.	✅
MS-SOC-ET-40	Evaluate when it is appropriate to use AI and other emerging technologies to solve a problem based on their capabilities, limitations, and environmental impacts.	
MS-SOC-ET-41	Evaluate how the decisions made while designing an emerging technology influence user experiences differently across different communities.	
MS-SOC-ET-42	Debate ways an emerging technology impacts the social, cultural, and environmental issues in local communities.	✅
MS-SOC-HU-43	Analyze how the decisions humans make when using computing technologies have ethical and social consequences.	✅
MS-SOC-CE-44	Analyze how workers in different careers use computational thinking to solve real-world problems.	✅
MS-SOC-CE-45	Evaluate how automation in technology can create or replace jobs and change how people work.	

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Alignment to High School Specialty Standards

Artificial Intelligence – Specialty I

Identifier	Standard	Fully Aligned?
S1-AIN-DD-01	Analyze AI systems to differentiate the types of problems they address.	✅
S1-AIN-DD-02	Modify AI system training data to improve fairness and accuracy in outputs.	✅
S1-AIN-DD-03	Create an application using a prebuilt supervised learning model to make a classification or prediction.	✅
S1-AIN-DD-04	Compare data representations and how representation choice constrains applicable algorithms.	
S1-AIN-DD-05	Evaluate whether an AI or non-AI computational solution is appropriate for a real-world problem.	
S1-AIN-DS-06	Examine how data flows through a neural network structure.	✅
S1-AIN-DS-07	Apply data acquisition, cleaning, and transformation techniques to prepare data for AI analysis.	
S1-AIN-HR-08	Plan safeguards for AI systems that protect human well-being and privacy while ensuring meaningful human involvement in decision-making.	✅
S1-AIN-HR-09	Analyze the potential biases and limitations of AI systems.	
S1-AIN-HR-10	Analyze the environmental impacts of widespread AI adoption.	
S1-AIN-PP-11	Integrate a prebuilt AI agent into an application.	
S1-AIN-PP-12	Analyze how AI tools shape user experiences for people with diverse backgrounds and characteristics.	✅
S1-AIN-PP-13	Assess how unauthorized data collection has influenced the practice of training AI models.	
S1-AIN-PP-14	Evaluate how ethical implications of AI have changed over time.	

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