NWRPDP
Nevada's Northwest Regional Professional Development Program
Churchill Douglas Washoe Carson Storey Lyon

K-12 Nevada Computer Science Standards Progression

Nevada Ready!

Standards in yellow are required CS standards for the 1/2 credit Computer Education & Technology course requirement for high school graduation.

		Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6-8	9-12
Algorithms & Programming	Algorithms	K.AP.A.1 Model daily processes [CSTA 1A-AP-08]				4.AP.A.1 Test, compare, refine algorithms for most appropriate use		6-8.AP.A.1 Use flowcharts and/or pseudocode to address complex problems as algorithms [CSTA 2-AP-10]	9-12.AP.A.1 Create prototypes that use algorithms to solve computational problems [CSTA 3A-AP-13]
	Control			2.AP.C.1 Develop programs with sequences and simple loops [CSTA 1A-AP-10]		4.AP.C.1 Program with sequences, events, loops, and conditionals [CSTA 1B-AP-10]		6-8.AP.C.1 Design and iteratively develop programs [CSTA 2-AP-12]	9-12.AP.C.1 Justify the selection of specific control structures and explain the benefits and drawbacks of choices made. [CSTA 3A-AP-15]
									9-12.AP.C.2 Design and iteratively develop computational artifacts [CSTA 3A-AP-16]
	Modularity			2.AP.M.1 Decompose steps of instructions [CSTA 1A-AP-11]		4.AP.M.1 Compex tasks decomposed to simple tasks, vice-versa	5.AP.M.1 Demonstrate how to decompose a task, vice-versa [CSTA 1B-AP-11]	6-8.AP.M.1 Decompose problems and subproblems to facilitate design, implementation, and review of programs [CSTA 2-AP-13]	9-12.AP.M.1 Decompose problems through systematic analysis [CSTA 3A-AP-17]
							5.AP.M.2 Modify, incorporate existing program into own work for new outcome	6-8.AP.M.2 Create procedures with parameters to organize code [CSTA 2-AP-14]	9-12.AP.M.2 Create artifacts by using procedures within a program, combinations of data and proceudres, or independent programs [CSTA 3A-AP-18]
	Program Development	K.AP.PD.1 Idenitfy and fix (debug) errors [CSTA 1A-AP-14]	1.AP.PD.1 Describe iterative process [CSTA 1A-AP-15]	2.AP.PD.1 Plan sequence of events, goals, outcomes in program [CSTA 1A-AP-12]	3.AP.PD.1 Debug algorithms or programs with sequences and loops [CSTA 1A-AP-14]	4.AP.PD.1 Debug to ensure program runs as intended [CSTA 1B-AP-15]	5.AP.PD.1 Use iterative process for programming, expressing ideas, or addressing problem [CSTA 1B-AP-13]	6-8.AP.PD.1 Design meaningful solutions for other, incorporate data from team members [CSTA 2-AP-15]	9-12.AP.PD.1 Systematically design and devlop programs for broad audiences, apply feedback from others. [CSTA 3A-AP-19]
				2.AP.PD.2 Give attribution [CSTA 1A-AP-13]	3.AP.PD.2 Collaborate with different roles [CSTA 1B-AP-16]		5.AP.PD.2 Describe choices using code comments [CSTA 1B-AP-17]	6-8.AP.PD.2 Incorporate existing code, media, and libraries into programs, with attribution [CSTA 2-AP-16]	9-12.AP.PD.2 Evaluate licenses that limit or restruct use of computational artifacts [CSTA 3A-AP-20]
							5.AP.PD.3 Give attribution [CSTA 1B-AP-14]	(6-8.AP.PD.3) Systematically test and refine programs [CSTA 2-AP-17]	9-12.AP.PD.3 Evaluate and refine computational artifacts to make them more usable [CSTA 3A-AP-21]
								6-8.AP.PD.4 Collaborate with others, distribute tasks and maintain project timeline [CSTA 2-AP-18]	9-12.AP.PD.4 Design and develop computational artifacts working in team roles using collaborative tools. [CSTA 3A-AP-22]
								6-8.AP.PD.5 Document programs to make them easier to follow, test, and debug by others [CSTA 2-AP-19]	9-12.AP.PD.5 Document design decisions in the development of complex programs [CSTA 3A-AP-23]
	Variables		1.AP.V.1 Model numbers and symbols as variables [CSTA 1A-AP-09]		3.AP.V.1 Create programs with variables [CSTA 1B-AP-09]			6-8.AP.V.1 Create variables that represent different data types and perform operations on their values [CSTA 2-AP-11]	9-12.AP.V.1 Demonstrate the use of both linked lists and arrays to simplify solutions
Computing Systems	Devices		1.CS.D.1 Select appropriate device and software for task [CSTA 1A-CS-01]		3.CS.D.1 Describe internal and external parts & how they form a system			6-8.CS.D.1 Recommend improvements to design computing devices, based on analysis of use and disadvantages and unintended consequences [CSTA 2-CS-01]	9-12.CS.D.1 Explain how abstractions hide implementation details of computing systems in everyday objects [CSTA 3A-CS-01]
	Hardware & Software	K.CS.HS.1 Use appropriate terminology [CSTA 1A-CS-02]				4.CS.HS.1 Model how hardware and software work together [CSTA 1A-CS-02]		6-8.CS.HS.1 Design and evaluate projects that combine hardware and software components [CSTA 2-CS-02]	9-12.CS.HS.1 Compare levels of abstraction and interactions between software and hardware [CSTA 3A-CS-02]
		K.CS.HS.2 Devices - specific device for variety of tasks							
	Troubleshooting			2.CS.T.1 Describe hardware & software with accurate terminology [CSTA 1A-CS-03]			5.CS.T.1 Determine solutions for simple hardware/software problems [CSTA 1B-CS-03]	6-8.CS.T.1 Systematically identify and fix problems with devices and components [CSTA 2-CS-03]	9-12.CS.T.1 Develop guidelines that convey systematic troubleshooting [CSTA 3A-CS-03]
Data Analysis	Collection, Visualization, & Transformation				3.DA.CVT.1 Organize and present data for relationships or support a claim [CSTA 1B-DA-06]			6-8.DA.CVT.1 Collect data using computational tools, make it more meaningful and useful [CSTA 2-DA-08]	9-12.DA.CVT.1 Create interactive data visualizations using software tools to help others better understand real-world phenomena [CSTA 3A-DA-11]
	Inferences and Models					4.DA.IM.1 Use data for cause and effect relationships, predict outcomes, communicate ideas [CSTA 1B-DA-07]	5.DA.IM.1 Recognize text, images, sounds as binary	6-8.DA.IM.1 Refine computational models based on reliability and validity of data they generate [CSTA 2-DA-09]	9-12.DA.IM.1 Create computational models that represent the relationship among different elements of data [CSTA 3A-DA-12]
	Storage	K.DA.S.1 Collect & store data on different devices	1.DA.S.1 Recognize data can be stored and retrieved	2.DA.S.1 Store, copy, search, retrieve, modify, and delete info [CSTA 1A-DA-05]				6-8.DA.S.1 Model encoding schema to access data, stored as bits, into forms understood by people [CSTA 2-DA-07]	9-12.DA.S.1 Translate between different bit representations of real-world phenomena [CSTA 3A-DA-09]
									9-12.DA.S.2 Evaluate tradeoffs in how data elements are organized and stored [CSTA 3A-DA-10]
Impacts of Computing	Culture	K.IC.C.1 Devices have changed peoples lives		2.IC.C.1 Compare lives before and after new technology [CSTA 1A-IC-16]	3.IC.C.1 Discuss how technology changed the world and influences culture [CSTA 1B-IC-18]	4.IC.C.1 Compare and contrast past to present [CSTA 1B-IC-18]	5.IC.C.1 Brainstorm and improve accessibility and usability of technology [CSTA 1B-IC-19]	6-8.IC.C.1 Compare tradeoffs with computing technologies that affect peoples everyday activities and career options [CSTA 2-IC-20]	9-12.IC.C.1 Evaluate social impacts of computing [CSTA 3A-IC-30]
								6-8.IC.C.2 Discuss and evaluate issues of bias and accessibility of existing technologies [CSTA 2-IC-21]	9-12.IC.C.2 Test and refine computational artifacts to reduce bias and equity deficits [CSTA 3A-IC-25]
									9-12.IC.C.3 Demonstrate ways an algorithm applies to problems across disciplines. [CSTA 3A-IC-26]
									9-12.IC.C.4 Explain potential impacts of artificial intelligence on society
	Safety, Law, and Ethics			2.IC.SLE.1 Identify safe and unsafe online communication	3.IC.SLE.1 Digital Citizen - Creative Commons [CSTA 1B-IC-21]			6-8.IC.SLE.1 Identify risks associated with sharing information digitally [CSTA 2-IC-23]	9-12.IC.SLE.1 Explain effects that intellectual property laws can have on innovation [CSTA 3A-IC-28]
								6-8.IC.SLE.2 Evaluate how legal and ethical issues shape computing practices	9-12.IC.SLE.2 Explain privacy concerns related to automated collection and generation of data [CSTA 3A-IC-29]
									9-12.IC.SLE.3 Evaluate solcial and economic implications of privacy in context of safety, law, or ethics [CSTA 3A-IC-30]
	Social Interactions	K.IC.SI.1 Digital Citizenship [CSTA 1A-IC-17]	1.IC.SI.1 Ditigal Citizenship [CSTA 1A-IC-17]				5.IC.SI.1 Seek diverse perspectives [CSTA 1B-IC-20]	6-8.IC.SI.1 Collaborate with many contributors through strategies such as crowdsourcing or surveys when creating computational artifact [CSTA 2-IC-22]	9-12.IC.SI.1 Use tools and methods for collaboration on a project [CSTA 3A-IC-27]
Networks & the Internet	Cybersecurity	K.NI.C.1 Passwords protect info [CSTA 1A-NI-04]	1.NI.C.1 Keep personal information private	2.NI.C.1 Explain and use strong passwords [CSTA 1A-NI-04]	3.NI.C.1 Discuss real world problems and how to protect information [CSTA 1B-NI-05]			6-8.NI.C.1 Explain how physical and digital security measures protect electronic information [CSTA 2-NI-05]	9-12.NI.C.1 Give examples to illustrate how sensitive data can be affected by malware and other attacks [CSTA 3A-NI-05]
								6-8.NI.C.2 Apply multiple methods of encryption [CSTA 2-NI-06]	9-12.NI.C.2 Recommend security measure to address various scenarios [CSTA 3A-NI-06]
									9-12.NI.C.3 Compare various security measures, considering tradeoffs between usability and security of computing systems [CSTA 3A-NI-07]
									9-12.NI.C.4 Explain tradeoffs when selecting and implementing cybersecurity recommendations [CSTA 3A-NI-08]
	Network, Communication, and Organization					4.NI.NCO.1 Model information transmitted as packets through multiple devices and reassembled [CSTA 1B-NI-04]	5.NI.NCO.1 Explain the concept of network protocols	6-8.NI.NCO.1 Compare and contrast modeled protocols in transmitting data [CSTA 2-NI-04]	9-12.NI.NCO.1 Evaluate the scalability and reliability of networks. [CSTA 3A-NI-04]
							5.NI.NCO.2 Identify advantages/disadvantages of network types		

**Standard language has been abreviated or condensed for formatting purposes. Refer to the complete Nevada Academic Content Standards - Computer Science for full language. NVACS that align or match CSTA standards are labeled with the corresponding CSTA standard.*

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