

WEB DESIGN AND DEVELOPMENT STANDARDS



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Office of Career Readiness, Adult Learning & Education Options
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All Nevadans ready for success in the 21st century

MISSION

To improve student achievement and educator effectiveness by ensuring opportunities, facilitating learning, and promoting excellence



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ACKNOWLEDGEMENTS

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STANDARDS DEVELOPMENT MEMBERS

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BUSINESS AND INDUSTRY VALIDATION

All CTE standards developed through the Nevada Department of Education are validated by business and industry through one or more of the following processes: (1) the standards are developed by a team consisting of business and industry representatives; or (2) a separate review panel was coordinated with industry experts to ensure the standards include the proper content; or (3) the adoption of nationally recognized standards endorsed by business and industry.

The Web Design and Development standards were validated through active participation of business and industry representatives on the development team.

PROJECT COORDINATOR

Melissa Scott, Assistant Director
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Nevada Department of Education

CONTENT STANDARD 1.0: FOUNDATIONS OF WEB DESIGN AND DEVELOPMENT

PERFORMANCE STANDARD 1.1: UNDERSTAND THE HISTORY OF WEB DESIGN AND DEVELOPMENT
<ul style="list-style-type: none"> 1.1.1 Describe the role of the World Wide Web Consortium (W3C) in defining web standards 1.1.2 Research the history of the World Wide Web 1.1.3 Compare and contrast the Internet and the World Wide Web
PERFORMANCE STANDARD 1.2: EXPLAIN LAYOUT AND DESIGN THEORY
<ul style="list-style-type: none"> 1.2.1 Explain and apply color theory 1.2.2 Explain and apply the principles of design 1.2.3 Explain and apply the elements of design 1.2.4 Explain and apply effective typography 1.2.5 Evaluate the use of white space 1.2.6 Describe the web design and development cycle
PERFORMANCE STANDARD 1.3: DEMONSTRATE KNOWLEDGE OF INDUSTRY TERMINOLOGY
<ul style="list-style-type: none"> 1.3.1 Define common terminology and their acronyms 1.3.2 Differentiate between front-end and back-end development 1.3.3 Explain the various roles and careers related to web design 1.3.4 Research career opportunities
PERFORMANCE STANDARD 1.4: DESCRIBE THE RELATIONSHIP BETWEEN SOCIAL MEDIA AND WEB DEVELOPMENT
<ul style="list-style-type: none"> 1.4.1 Describe the role of social media in web development 1.4.2 Explain the correlation between social media platforms and web links 1.4.3 Describe the relationship of advertising, social media, and websites 1.4.4 Discuss current trends in social media 1.4.5 Create and implement a strategy that uses social networks to drive traffic to a website
PERFORMANCE STANDARD 1.5: DESCRIBE E-COMMERCE
<ul style="list-style-type: none"> 1.5.1 Define e-commerce as it relates to web development 1.5.2 Demonstrate how to integrate a shopping cart into a web page 1.5.3 Evaluate payment processing options 1.5.4 Discuss security concerns as they relate to e-commerce

CONTENT STANDARD 2.0: ETHICAL AND SECURE USE OF INFORMATION**PERFORMANCE STANDARD 2.1: DESCRIBE COPYRIGHT LAWS IN RELATION TO WEB DEVELOPMENT**

- 2.1.1 Research laws that govern intellectual property in diverse forms
- 2.1.2 Evaluate Creative Commons licensing and other free-content license types
- 2.1.3 Cite the boundaries of third-party work
- 2.1.4 Explain terms related to copyright, trademarks, patents, and other intellectual property

PERFORMANCE STANDARD 2.2: EXPLAIN SECURITY ISSUES IN RELATION TO WEB DEVELOPMENT

- 2.2.1 Explain invasion of privacy in the use of technology
- 2.2.2 Model acceptable security practices
- 2.2.3 Analyze the implications of a personal digital footprint
- 2.2.4 Differentiate between secure and unsecure web protocols
- 2.2.5 Explain implications of General Data Protection Regulations (GDPR)
- 2.2.6 Explain the implications of the California Consumer Privacy Act (CCPA)
- 2.2.7 Compare and contrast global privacy policies and cultural impact
- 2.2.8 Describe how a security certificate protects a website

PERFORMANCE STANDARD 2.3: APPLY PERSONAL AND PROFESSIONAL ETHICS

- 2.3.1 Model legal and ethical use of information
- 2.3.2 Describe the purpose of a non-disclosure agreement (NDA)
- 2.3.3 Analyze content for bias

CONTENT STANDARD 3.0: CONSTRUCTING A WEBSITE

PERFORMANCE STANDARD 3.1: DEVELOP A FILE MANAGEMENT SYSTEM
<ul style="list-style-type: none"> 3.1.1 Create a maintainable directory structure for a website 3.1.2 Apply appropriate file naming protocols 3.1.3 Demonstrate and use correct file paths for relative and absolute links 3.1.4 Recognize the relationship between local and remote site structures 3.1.5 Develop data backup procedures
PERFORMANCE STANDARD 3.2: DEMONSTRATE PROPER LAYOUT TECHNIQUES
<ul style="list-style-type: none"> 3.2.1 Identify commonly used layout techniques for web design 3.2.2 Develop an appropriate navigation system (site map) 3.2.3 Develop wireframes for initial responsive design concepts 3.2.4 Develop responsive design for various devices 3.2.5 Identify the uses of Cascading Style Sheets (CSS)
PERFORMANCE STANDARD 3.3: CREATE WEB CONTENT
<ul style="list-style-type: none"> 3.3.1 Discuss and differentiate voice, tone, and style as it applies to web writing 3.3.2 Determine the primary and secondary purposes of web content 3.3.3 Identify target audiences and reading levels for specific websites 3.3.4 Identify and create a list of keywords and descriptions (meta tags) to include in web content for search engine optimization (SEO) 3.3.5 Apply grammar and spelling conventions to content 3.3.6 Evaluate existing content for web use (e.g., images, print documents, text, video, etc.) 3.3.7 Create a branding message that will present a professional image 3.3.8 List and describe best practices in content creation that foster indexing and ranking of websites
PERFORMANCE STANDARD 3.4: CREATE AND EDIT MEDIA FOR THE WEB
<ul style="list-style-type: none"> 3.4.1 Describe common media file formats 3.4.2 Identify appropriate software for media creation 3.4.3 Create and edit media files (e.g., sound, video, graphics, multimedia) 3.4.4 Optimize media files for uploading using compression tools 3.4.5 Embed media files in a web design 3.4.6 Calculate and convert images to desired sizes and resolution 3.4.7 Manipulate scalable vector graphics (SVG) by altering code 3.4.8 Animate an SVG with CSS

PERFORMANCE STANDARD 3.5: DEMONSTRATE KNOWLEDGE OF CHALLENGES ASSOCIATED WITH ACCESSIBILITY AND USABILITY

- 3.5.1 Describe regional, national, and international legal requirements and standards for accessibility on the web
- 3.5.2 Identify types of disabilities that should be considered when designing websites
- 3.5.3 Optimize websites to accommodate users with special needs
- 3.5.4 Explain website usability procedures
- 3.5.5 Research ADA compliance regulations and policies

CONTENT STANDARD 4.0: PUBLISHING A WEBSITE

PERFORMANCE STANDARD 4.1: UNDERSTAND FUNDAMENTALS OF WEB HOSTING
<ul style="list-style-type: none"> 4.1.1 Identify the various server operating systems used to host web pages 4.1.2 Describe how servers work in a hosting environment 4.1.3 Explain the relationship between client and server 4.1.4 Explain common web server maintenance routines 4.1.5 Describe the technical requirements involved in choosing a web host
PERFORMANCE STANDARD 4.2: DEMONSTRATE PUBLISHING TO THE WEB
<ul style="list-style-type: none"> 4.2.1 Identify the purpose of Secure File Transfer Protocol (SFTP) 4.2.2 Demonstrate the use of SFTP 4.2.3 Preview and test web pages for compatibility using various browsers and output devices 4.2.4 Describe the process of locating and registering a domain name 4.2.5 Explain domain name servers (DNS)
PERFORMANCE STANDARD 4.3: MAINTAIN WEB CONTENT
<ul style="list-style-type: none"> 4.3.1 Evaluate content with client for relevancy 4.3.2 Evaluate content for viability 4.3.3 Monitor validity of hyperlinks 4.3.4 Maintain and update all website documentation (e.g., prototype, site map, navigation, etc.) 4.3.5 Analyze web analytics for purposes of improving traffic, user experience, and meeting targeted goals

CONTENT STANDARD 5.0: WEB DEVELOPMENT**PERFORMANCE STANDARD 5.1: DEVELOP A WEBSITE USING HYPERTEXT MARKUP LANGUAGE (HTML)**

- 5.1.1 Explain the role of Hypertext Markup Language (HTML) in web development
- 5.1.2 Differentiate among the different forms of HTML
- 5.1.3 Identify HTML tags for authoring a web page document
- 5.1.4 Code a basic web page utilizing proper HTML document structure in a text editor
- 5.1.5 Utilize verification tools to verify code

PERFORMANCE STANDARD 5.2: DESCRIBE CONCEPTS AND USE OF CASCADING STYLE SHEETS (CSS)

- 5.2.1 Describe the role of CSS in relation to web design
- 5.2.2 Identify the structure of CSS style rules
- 5.2.3 Describe CSS selector types
- 5.2.4 Differentiate between internal, external, and inline style sheets
- 5.2.5 Use CSS to style and layout webpage content
- 5.2.6 Utilize online validation tools for CSS
- 5.2.7 Compare and contrast static, relative, absolute, and fixed positioning
- 5.2.8 Describe the function of a CSS preprocessor

PERFORMANCE STANDARD 5.3: APPLY FOUNDATIONS OF WEB SCRIPTING

- 5.3.1 Explain the use of current web scripting technologies
- 5.3.2 Implement scripting (e.g., rollovers, form scripts, etc.)
- 5.3.3 Compare and contrast client (browser) scripting and server scripting (e.g., PHP, JavaScript, ASP.NET, etc.)
- 5.3.4 Enhance interactivity of websites using current scripting trends
- 5.3.5 Compare and contrast static versus dynamic websites
- 5.3.6 Utilize online validation tools for web scripting

PERFORMANCE STANDARD 5.4: DEVELOP DATABASES

- 5.4.1 Identify and describe relational databases
- 5.4.2 Analyze various databases used in web development
- 5.4.3 Describe the purpose of a database as it relates to web development
- 5.4.4 Incorporate a database into a website
- 5.4.5 Utilize online validation tools for databases

PERFORMANCE STANDARD 5.5: UTILIZE CONTENT MANAGEMENT SYSTEMS IN WEB DEVELOPMENT

- 5.5.1 Identify content management systems (CMS) (e.g., WordPress, Joomla, etc.)
- 5.5.2 Evaluate current trends in CMS (e.g., blogging, online magazine, corporate websites, etc.)
- 5.5.3 Build a theme for a self-hosted CMS

PERFORMANCE STANDARD 5.6: UTILIZE ONLINE COLLABORATION RESOURCES

- 5.6.1 Define cloud computing
- 5.6.2 Compare various cloud computing platforms (e.g., Microsoft Azure, Amazon AWS, Google Cloud, etc.)
- 5.6.3 Explain the role of version control when developing with a team

CONTENT STANDARD 6.0: ADVANCED AND EMERGING TECHNOLOGIES IN WEB DEVELOPMENT**PERFORMANCE STANDARD 6.1: DEVELOP A WEB APP**

- 6.1.1 Analyze current programming languages used in web app development
- 6.1.2 Compare and contrast a web portfolio site and web app
- 6.1.3 Explain the purpose of Application Programming Interface (API) in app development
- 6.1.4 Develop an app using a modern programming language

PERFORMANCE STANDARD 6.2: EXPLAIN ARTIFICIAL INTELLIGENCE (AI)

- 6.2.1 Define Artificial Intelligence (AI)
- 6.2.2 Explain the role of AI in web development
- 6.2.3 Describe how AI changes the user experience
- 6.2.4 Compare data driven versus model driven AI
- 6.2.5 Explain the significance of data in the development of AI

PERFORMANCE STANDARD 6.3: RESEARCH NON-STANDARD WEB CONNECTED DEVICES

- 6.3.1 Research Internet of Things (IOT) as it relates to web development
- 6.3.2 Explain the impact of digital assistants on web development

PERFORMANCE STANDARD 6.4: EXPLORE VIRTUAL (VR) AND AUGMENTED (AR) REALITY

- 6.4.1 Explore use of VR and AR in web design
- 6.4.2 Research emerging applications of VR and AR in non-entertainment venues

CROSSWALKS AND ALIGNMENTS**CROSSWALKS (ACADEMIC STANDARDS)**

The crosswalk of the Web Design and Development Standards shows links to the Nevada Academic Content Standards. The crosswalk identifies the performance indicators in which the learning objectives in the Web Design and Development program support academic learning. The performance indicators are grouped according to their content standard and are crosswalked to the Nevada Academic Content Standards in English Language Arts, Mathematics, and Science.

ALIGNMENTS (MATHEMATICAL PRACTICES)

In addition to correlation with the Nevada Academic Content Standards for Mathematics, many performance indicators support the Mathematical Practices. The following table illustrates the alignment of the Web Design and Development Standards Performance Indicators and the Mathematical Practices. This alignment identifies the performance indicators in which the learning objectives in the Web Design and Development program support academic learning.

ALIGNMENTS (SCIENCE AND ENGINEERING PRACTICES)

In addition to correlation with the Nevada Academic Content Standards for Science, many performance indicators support the Science and Engineering Practices. The following table illustrates the alignment of the Web Design and Development Standards Performance Indicators and the Science and Engineering Practices. This alignment identifies the performance indicators in which the learning objectives in the Web Design and Development program support academic learning.

CROSSWALKS (COMMON CAREER TECHNICAL CORE)

The crosswalk of the Web Design and Development Standards shows links to the Common Career Technical Core. The crosswalk identifies the performance indicators in which the learning objectives in the Web Design and Development program support the Common Career Technical Core. The Common Career Technical Core defines what students should know and be able to do after completing instruction in a program of study. The Web Design and Development Standards are crosswalked to the Web & Digital Communications Career Cluster™ and the Web & Digital Communications Career Pathway.

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**CROSSWALK OF WEB DESIGN AND DEVELOPMENT STANDARDS
AND THE NEVADA ACADEMIC CONTENT STANDARDS**

CONTENT STANDARD 1.0: FOUNDATIONS OF WEB DESIGN AND DEVELOPMENT

Performance Indicators	Nevada Academic Content Standards
1.1.1	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>
1.1.2	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
1.1.3	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p>
1.2.5	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
1.2.6	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>
1.3.1	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>

Performance Indicators	Nevada Academic Content Standards
1.3.2	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>
1.3.3	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
1.3.4	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>
1.4.1	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>
1.4.2	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
1.4.4	<p>English Language Arts: Speaking and Listening Standards SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p> <p>SL.11-12.3 Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.</p>
1.4.5	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>

Performance Indicators	Nevada Academic Content Standards
1.5.1	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
1.5.3	<p>K-12 Computer Science: Networks and the Internet A9-12.NI.C.1 Compare ways software developers protect devices and information from unauthorized access.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
1.5.4	<p>K-12 Computer Science: Networks and the Internet 9-12.NI.C.3 Compare various security measures, considering tradeoffs between the usability and security of a computing system.</p> <p>A9-12.NI.C.1 Compare ways software developers protect devices and information from unauthorized access.</p> <p>English Language Arts: Speaking and Listening Standards SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p>

CONTENT STANDARD 2.0: ETHICAL AND SECURE USE OF INFORMATION

Performance Indicators	Nevada Academic Content Standards
2.1.1	<p>K-12 Computer Science: Impacts of Computing A9-12.IC.SLE.1 Debate laws and regulations that impact the development and use of software.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>
2.1.2	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
2.1.3	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p>
2.1.4	<p>K-12 Computer Science: Impacts of Computing 9-12.IC.SLE.1 Explain the beneficial and harmful effects that intellectual property laws can have on innovation.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

Performance Indicators	Nevada Academic Content Standards
2.2.1	<p>K-12 Computer Science: Impacts of Computing 9-12.IC.SLE.2 Explain the privacy concerns related to the collection and generation of data through automated processes that may not be evident to users. 9-12.IC.SLE.3 Evaluate the social and economic implications of privacy in the context of safety, law, or ethics.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>
2.2.3	<p>K-12 Computer Science: Impacts of Computing 9-12.IC.C.1 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.1 Write arguments focused on discipline-specific content.</p>
2.2.4	<p>K-12 Computer Science: Networks and the Internet A9-12.NI.C.1 Compare ways software developers protect devices and information from unauthorized access.</p>
2.2.5	<p>K-12 Computer Science: Impacts of Computing 9-12.IC.SLE.1 Explain the beneficial and harmful effects that intellectual property laws can have on innovation.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p>

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2.2.6	<p>K-12 Computer Science: Impacts of Computing 9-12.IC.SLE.1 Explain the beneficial and harmful effects that intellectual property laws can have on innovation.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p> <p>RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p>English Language Arts: Speaking and Listening Standards SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.</p>
2.2.7	<p>K-12 Computer Science: Impacts of Computing 9-12.IC.C.1 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.</p> <p>9-12.IC.C.4 Explain the potential impacts of artificial intelligence on society.</p>
2.2.8	<p>K-12 Computer Science: Networks and the Internet A9-12.NI.C.1 Compare ways software developers protect devices and information from unauthorized access.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
2.3.2	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>

Performance Indicators	Nevada Academic Content Standards
2.3.3	<p>K-12 Computer Science: Impacts of Computing 9-12.IC.C.1 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.6 Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.</p> <p>RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p>English Language Arts: Speaking and Listening Standards SL.11-12.3 Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>

CONTENT STANDARD 3.0:CONSTRUCTING A WEBSITE

Performance Indicators	Nevada Academic Content Standards
3.2.1	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p>
3.2.5	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p>
3.3.1	<p>English Language Arts: Speaking and Listening Standards SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
3.3.2	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.6 Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.</p>
3.3.3	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.6 Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.</p> <p>RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p>

Performance Indicators	Nevada Academic Content Standards
3.3.4	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
3.3.5	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>WHST.11-12.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>
3.3.6	<p>K-12 Computer Science: Impacts of Computing A9-12.IC.C.1 Evaluate computational artifacts to maximize their beneficial effects and minimize harmful effects on society.</p> <p>A9-12.IC.C.2 Evaluate the impact of equity, access, and influence on the distribution of computing resources in a global society.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.6 Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.</p> <p>RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p>
3.3.7	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p>

Performance Indicators	Nevada Academic Content Standards
3.3.8	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.1 Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>
3.4.1	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
3.4.2	<p>K-12 Computer Science: Networks and the Internet A9-12.NI.NCO.1 Describe the issues that impact network functionality (e.g., bandwidth, load, delay, topology).</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p>
3.5.1	<p>K-12 Computer Science: Impacts of Computing A9-12.IC.C.2 Evaluate the impact of equity, access, and influence on the distribution of computing resources in a global society.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>
3.5.2	<p>K-12 Computer Science: Impacts of Computing A9-12.IC.C.2 Evaluate the impact of equity, access, and influence on the distribution of computing resources in a global society.</p> <p>A9-12.IC.SLE.1 Debate laws and regulations that impact the development and use of software.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
3.5.3	<p>K-12 Computer Science: Algorithms and Programming 9-12.AP.PD.3 Evaluate and refine computational artifacts to make them more usable by all and accessible to people with disabilities.</p>

Performance Indicators	Nevada Academic Content Standards
3.5.4	<p>K-12 Computer Science: Networks and the Internet 9-12.NI.C.3 Compare various security measures, considering tradeoffs between the usability and security of a computing system.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
3.5.5	<p>K-12 Computer Science: Impacts of Computing A9-12.IC.SLE.1 Debate laws and regulations that impact the development and use of software.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>English Language Arts: Speaking and Listening Standards SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

CONTENT STANDARD 4.0: PUBLISHING A WEBSITE

Performance Indicators	Nevada Academic Content Standards
4.1.1	<p>K-12 Computer Science: Computing Systems A9-12.CS.HS.1 Categorize the roles of operating system software.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
4.1.2	<p>K-12 Computer Science: Networks and the Internet A9-12.NI.NCO.1 Describe the issues that impact network functionality (e.g., bandwidth, load, delay, topology).</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
4.1.3	<p>K-12 Computer Science: Networks and the Internet 9-12.NI.NCO.1 Evaluate the scalability and reliability of networks, by describing the relationship between routers, switches, servers, topology, and addressing.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
4.1.4	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
4.1.5	<p>K-12 Computer Science: Networks and the Internet 9-12.NI.C.4 Explain tradeoffs when selecting and implementing cybersecurity recommendations.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

Performance Indicators	Nevada Academic Content Standards
4.2.1	<p>K-12 Computer Science: Networks and the Internet 9-12.NI.C.3 Compare various security measures, considering tradeoffs between the usability and security of a computing system.</p> <p>9-12.NI.C.4 Explain tradeoffs when selecting and implementing cybersecurity recommendations.</p> <p>A9-12.NI.C.1 Compare ways software developers protect devices and information from unauthorized access.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
4.2.2	<p>K-12 Computer Science: Networks and the Internet 9-12.NI.C.2 Recommend security measures to address various scenarios based on factors such as efficiency, feasibility, and ethical impacts.</p>
4.2.3	<p>K-12 Computer Science: Networks and the Internet A9-12.NI.NCO.1 Describe the issues that impact network functionality (e.g., bandwidth, load, delay, topology).</p>
4.2.4	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
4.2.5	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
4.3.1	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.6 Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.</p> <p>English Language Arts: Speaking and Listening Standards SL.11-12.3 Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p>SL.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.</p>

Performance Indicators	Nevada Academic Content Standards
4.3.5	English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

CONTENT STANDARD 5.0: WEB DEVELOPMENT

Performance Indicators	Nevada Academic Content Standards
5.1.1	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
5.2.1	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
5.2.4	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
5.2.8	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
5.3.1	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.PD.8 Compare multiple programming languages and discuss how their features make them suitable for solving different types of problems.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
5.3.3	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.PD.8 Compare multiple programming languages and discuss how their features make them suitable for solving different types of problems.</p>
5.3.5	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p>

Performance Indicators	Nevada Academic Content Standards
5.4.3	<p>K-12 Computer Science: Impacts of Computing 9-12.IC.SLE.2 Explain the privacy concerns related to the collection and generation of data through automated processes that may not be evident to users.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>
5.4.4	<p>K-12 Computer Science: Data and Analysis A9-12.DA.CVT.2 Select data collection tools and techniques to generate data sets that support a claim or communicate information.</p>
5.5.1	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
5.5.2	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
5.5.3	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
5.6.1	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
5.6.2	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>

Performance Indicators	Nevada Academic Content Standards
5.6.3	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.PD.4 Use version control systems, integrated development environments (IDEs), and collaborative tools and practices (code documentation) in a group software project.</p> <p>English Language Arts: Speaking and Listening Standards SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p>

CONTENT STANDARD 6.0: ADVANCED AND EMERGING TECHNOLOGIES IN WEB DEVELOPMENT

Performance Indicators	Nevada Academic Content Standards
6.1.1	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.PD.8 Compare multiple programming languages and discuss how their features make them suitable for solving different types of problems.</p>
6.1.2	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.PD.7 Evaluate key qualities of a program through a process such as a code review.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
6.1.3	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.M.3 Demonstrate code reuse by creating programming solutions using libraries and APIs.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>
6.1.4	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.PD.3 Develop programs for multiple computing platforms.</p>
6.2.1	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.A.1 Describe how artificial intelligence drives many software and physical systems.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
6.2.2	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.A.2 Implement an artificial intelligence algorithm to play a game against a human opponent or solve a problem.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
6.2.3	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.</p>
6.2.4	<p>K-12 Computer Science: Algorithms and Programming A9-12.AP.V.1 Compare and contrast fundamental data structures and their uses.</p> <p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>

Performance Indicators	Nevada Academic Content Standards
6.2.5	<p>K-12 Computer Science: Impacts of Computing 9-12.IC.C.4 Explain the potential impacts of artificial intelligence on society.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>
6.3.1	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
6.3.2	<p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p> <p>WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>
6.4.1	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
6.4.2	<p>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>

**ALIGNMENT OF WEB DESIGN AND DEVELOPMENT STANDARDS
AND THE MATHEMATICAL PRACTICES**

Mathematical Practices	Web Design and Development Performance Indicators
1. Make sense of problems and persevere in solving them.	3.2.2-3.2.4 4.2.3; 4.3.3 6.1.4
2. Reason abstractly and quantitatively.	1.5.3 6.1.4
3. Construct viable arguments and critique the reasoning of others.	5.1.4
4. Model with mathematics.	3.4.6, 3.4.7 5.3.2
5. Use appropriate tools strategically.	3.4.4-3.4.8 6.1.4
6. Attend to precision.	6.1.4
7. Look for and make use of structure.	3.1.1-3.1.5; 3.2.2; 3.3.8; 3.4.5, 3.4.7 5.1.4
8. Look for and express regularity in repeated reasoning.	3.2.4

**ALIGNMENT OF WEB DESIGN AND DEVELOPMENT STANDARDS
AND THE SCIENCE AND ENGINEERING PRACTICES**

Science and Engineering Practices	Web Design and Development Performance Indicators
1. Asking questions (for science) and defining problems (for engineering).	5.1.4; 5.2.5 6.1.4
2. Developing and using models.	5.5.3
3. Planning and carrying out investigations.	
4. Analyzing and interpreting data.	4.3.5
5. Using mathematics and computational thinking.	5.1.3-5.1.5; 5.2.1-5.2.8; 5.3.2, 5.3.6 6.1.1, 6.1.4
6. Constructing explanations (for science) and designing solutions (for engineering).	
7. Engaging in argument from evidence.	
8. Obtaining, evaluating, and communicating information.	5.4.1-5.4.5

**CROSSWALKS OF WEB DESIGN AND DEVELOPMENT STANDARDS
AND THE COMMON CAREER TECHNICAL CORE**

Information Technology Career Cluster™ (IT)	Performance Indicators
1. Demonstrate effective professional communication skills and practices that enable positive customer relationships.	2.3.1; 4.3.1
2. Use product or service design processes and guidelines to produce a quality information technology (IT) product or service.	3.1.1-3.1.5
3. Demonstrate the use of cross-functional teams in achieving IT project goals.	5.6.3
4. Demonstrate positive cyber citizenry by applying industry accepted ethical practices and behaviors.	2.2.1-2.2.8
5. Explain the implications of IT on business development.	4.3.5
6. Describe trends in emerging and evolving computer technologies and their influence on IT practices.	6.2.1-6.2.5, 6.3.1-6.3.2 6.4.1-6.4.2
7. Perform standard computer backup and restore procedures to protect IT information.	3.1.5 5.6.3
8. Recognize and analyze potential IT security threats to develop and maintain security requirements.	2.2.1-2.2.8
9. Describe quality assurance practices and methods employed in producing and providing quality IT products and services.	2.3.3 3.3.6;
10. Describe the use of computer forensics to prevent and solve information technology crimes and security breaches.	2.2.1-2.2.8
11. Demonstrate knowledge of the hardware components associated with information systems.	
12. Compare key functions and applications of software and determine maintenance strategies for computer systems.	5.6.1-5.6.3

Web & Digital Communications Career Pathway (IT-WD)	Performance Indicators
1. Analyze customer requirements to design and develop a Web or digital communication product.	4.3.1, 4.3.5
2. Apply the design and development process to produce user-focused Web and digital communications solutions.	1.2.1-1.2.6; 1.4.5 3.2.1-3.2.5; 3.3.1-3.3.6; 3.4.1-3.4.6 5.2.1-5.2.6
3. Write product specifications that define the scope of work aligned to customer requirements.	2.3.3; 6.1.4
4. Demonstrate the effective use of tools for digital communication production, development and project management.	5.2.1-5.2.6; 5.4.1-5.4.4 5.5.1, 5.5.3 6.1.2; 6.2.3, 6.2.4
5. Develop, administer and maintain Web applications.	4.2.1-4.2.5; 4.3.1-4.3.5

6. Design, create and publish a digital communication product based on customer needs.	5.1.1-5.1.5; 5.2.1-5.2.8; 5.3.1-5.3.5; 5.4.1-5.4.5
7. Evaluate the functionality of a digital communication product using industry accepted techniques and metrics.	3.5.1-3.5.5
8. Implement quality assurance processes to deliver quality digital communication products and services.	4.2.3; 4.3.2, 4.3.3
9. Perform maintenance and customer support functions for digital communication products.	4.3.1-4.3.5
10. Comply with intellectual property laws, copyright laws and ethical practices when creating Web/digital communications.	2.1.1-2.1.4; 2.3.1-2.3.3