

Computer Science - Curriculum and Instructional Resource Review Committee (CS-CIRRC) Rubric

Senate Bill 200 (2017 Legislative Session)

In the 79th Session of the Nevada Legislature (2017), Senate Bill 200 was passed and signed into law. This piece of legislation on computer science education outlined the role of the Computer Science Subcommittee of the STEM Advisory Council in reviewing curriculum and materials for computer science:

*“Section 8.1.i - **Appoint a subcommittee on computer science** consisting of at least three members **to provide advice and recommendations** to: (1) The State Board of Education, the Council to Establish Academic Standards for Public Schools, the boards of trustees of school districts and the governing bodies of charter schools and university schools for profoundly gifted pupils **concerning the curriculum and materials for courses in computer science and computer education and technology** and professional development for teachers who teach such courses;...”*

Our Vision

All students and teachers in Nevada will have access to the highest-quality curriculum and instructional materials for computer science and computer education and technology (CS & CET) that will help improve student-learning outcomes and help to prepare every Nevada student to be college, career, civic, and community ready.

The purpose of these materials is to be the tools that provide students with positive CS & CET learning experiences that build upon each other throughout their K-12 experience and facilitate a deeper understanding of the standards-based content. In response, Nevada educators and the Computer Science Subcommittee of the STEM Advisory Council have collaborated to create a CS & CET curriculum and instructional materials review process that will provide all of our students the instruments to access, examine, and provide analysis to this subject area without limitations predetermined by race, gender, ethnicity, language, exceptionality, sexual determination, or family background/ income.

Adoption Process

The adoption process starts with vendors submitting materials for review as put forth by a Request for Information (RFI) issued by the Nevada Department of Education (NDE). The curriculum and instructional materials (CS-CIMs) submitted will first have an internal technical review conducted by an NDE Computer Science staff member. Next, the CS-CIMs will be reviewed by the Nevada Computer Science Curriculum and Instructional Resource Review Committee (CS-CIRRC), a representative task group of the Computer Science Subcommittee of the STEM Advisory Council. And finally, the CS Subcommittee will provide a list of recommended CS-CIMs to NDE for presentation to the State Board of Education (SBE) for possible adoption. Once approved by the SBE, the list will be posted on the NDE website and those CS-CIMs will be available for adoption by all districts, charters, and other K-12 educational institutions in the state.

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The CS-CIRRC membership includes CS content area specialists from several urban and rural school districts, and higher education institutions in Nevada. This committee is tasked with receiving, reviewing and making recommendations regarding the adoption of all computer science curriculum and instructional materials that drive instruction in the various grade-level classrooms. The [Computer Science Subcommittee](#) includes folks from the Governor's Office of Science, Innovation, and Technology, the State Board of Education, the Nevada Department of Education, school district leaders and educators, the state Regional Professional Development Programs, and institutions of higher education. They are in charge of reviewing the selection outcomes from the CS-CIRRC process and putting forth official recommendations to NDE for presentation to the State Board of Education for possible adoption.

Grade Level Focus

The current focus for review of curriculum and instructional materials for CS & CET will concentrate on Kindergarten through Grade 12.

Curriculum and Instructional Material Review Process

The evaluation process for all CS & CET curriculum and instructional material will include completion of a standards-focused checklist and comprehensive scoring rubric. The rubric has multiple categories for each focus area to be reviewed. The first category evaluates alignment to the [Nevada Academic Content Standards for Computer Science and Integrated Technology](#). The overall score for category one must meet or exceed the criteria in order for the curriculum or instructional material to continue in the review process for the other categories. Category two evaluates the access and equity of a given curriculum or instructional material, and this category must also meet or exceed the criteria for the material to move on in the review process. If the curriculum or instructional material fails either of the first two categories, it can be resubmitted at the next review cycle for CS & CET.

This evaluation process includes (1) a checklist that outlines the criteria that must be evident in the curriculum or instructional material and (2) a comprehensive scoring rubric. Each category in the scoring rubric includes required elements that must be documented and supported within the columns labeled evidence and reasoning, respectively. These two documents must be used conjointly to evaluate and determine the overall score for the curriculum or instructional material.

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Category 1a: Aligned to NVACS for Computer Science

Criteria	Exceeds = 4	Meets = 3	Developing = 2	Limited = 1	Not Present = 0
Algorithms and Programming (algorithms, control, modularity, program development, and variables)	Instructional material is 100% aligned to algorithms and programming concepts	Instructional material is 75-99% aligned to algorithms and programming concepts	Instructional material is 50-74% aligned to algorithms and programming concepts	Instructional material is 25-49% aligned to algorithms and programming concepts	No alignment to algorithms and programming concepts
Computing Systems (devices, hardware/software, troubleshooting)	Instructional material is 100% aligned to computing systems concepts	Instructional material is 75-99% aligned to computing systems concepts	Instructional material is 50-74% aligned to computing systems concepts	Instructional material is 25-49% aligned to computing systems concepts	No alignment to computing systems concepts
Data and Analysis (collection, visualization, and transformation; inference and models; storage)	Instructional material is 100% aligned to data and analysis skills and concepts	Instructional material is 75-99% aligned to data and analysis skills and concepts	Instructional material is 50-74% aligned to data and analysis skills and concepts	Instructional material is 25-49% aligned to data and analysis skills and concepts	No alignment to data and analysis skills and concepts
Impacts of Computing (culture; safety, law, and ethics; social interactions)	Instructional material is 100% aligned to the impacts of computing	Instructional material is 75-99% aligned to the impacts of computing	Instructional material is 50-74% aligned to the impacts of computing	Instructional material is 25-49% aligned to the impacts of computing	No alignment to the impacts of computing
Networks and the Internet (cybersecurity, network communication and organization)	Instructional material is 100% aligned to concepts around networks and the internet	Instructional material is 75-99% aligned to concepts around networks and the internet	Instructional material is 50-74% aligned to concepts around networks and the internet	Instructional material is 25-49% aligned to concepts around networks and the internet	No alignment to concepts around networks and the internet
Computer Science Practices	Instructional material is 100% aligned to the seven computer science practices.	Instructional material is 75-99% aligned to the seven computer science practices.	Instructional material is 50-74% aligned to the seven computer science practices.	Instructional material is 25-49% aligned to the seven computer science practices.	No alignment to the seven computer science practices.

Category 1a: Materials must measure meets/exceeds in ALL criteria. (Circle one)

Meet | Does Not Meet

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Category 1b: Aligned to NVACS for Integrated Technology (if applicable)

Criteria	Exceeds = 4	Meets = 3	Developing = 2	Limited = 1	Not Present = 0
Empowered Learner	Instructional material is 100% aligned to leveraging technology to take an active role in choosing, achieving, and demonstrating competency in learning goals, informed by the learning sciences	Instructional material is 75-99% aligned to leveraging technology to take an active role in choosing, achieving, and demonstrating competency in learning goals, informed by the learning sciences	Instructional material is 50-74% aligned to leveraging technology to take an active role in choosing, achieving, and demonstrating competency in learning goals, informed by the learning sciences	Instructional material is 25-49% aligned to leveraging technology to take an active role in choosing, achieving, and demonstrating competency in learning goals, informed by the learning sciences	No alignment to leveraging technology to take an active role in choosing, achieving, and demonstrating competency in learning goals, informed by the learning sciences
Digital Citizen	Instructional material is 100% aligned to recognizing the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and act and model in ways that are safe, legal, and ethical	Instructional material is 75-99% aligned to recognizing the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and act and model in ways that are safe, legal, and ethical	Instructional material is 50-74% aligned to recognizing the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and act and model in ways that are safe, legal, and ethical	Instructional material is 25-49% aligned to recognizing the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and act and model in ways that are safe, legal, and ethical	No alignment to recognizing the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and act and model in ways that are safe, legal, and ethical
Knowledge Constructor	Instructional material is 100% aligned to critically curating a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences	Instructional material is 75-99% aligned to critically curating a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences	Instructional material is 50-74% aligned to critically curating a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences	Instructional material is 25-49% aligned to critically curating a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences	No alignment to critically curating a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences
Innovative Designer	Instructional material is 100% aligned to using a variety of technologies within a design process to identify and solve problems by creating new, useful, or imaginative solutions	Instructional material is 75-99% aligned to using a variety of technologies within a design process to identify and solve problems by creating new, useful, or imaginative solutions	Instructional material is 50-74% aligned to using a variety of technologies within a design process to identify and solve problems by creating new, useful, or imaginative solutions	Instructional material is 25-49% aligned to using a variety of technologies within a design process to identify and solve problems by creating new, useful, or imaginative solutions	No alignment to using a variety of technologies within a design process to identify and solve problems by creating new, useful, or imaginative solutions

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Criteria	Exceeds = 4	Meets = 3	Developing = 2	Limited = 1	Not Present = 0
Computational Thinker	Instructional material is 100% aligned to developing and employing strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions	Instructional material is 75-99% aligned to developing and employing strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions	Instructional material is 50-74% aligned to developing and employing strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions	Instructional material is 25-49% aligned to developing and employing strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions	No alignment to developing and employing strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions
Creative Communicator	Instructional material is 100% aligned to communicating clearly and expressing creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to selected goals	Instructional material is 75-99% aligned to communicating clearly and expressing creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to selected goals	Instructional material is 50-74% aligned to communicating clearly and expressing creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to selected goals	Instructional material is 25-49% aligned to communicating clearly and expressing creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to selected goals	No alignment to communicating clearly and expressing creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to selected goals
Global Collaborator	Instructional material is 100% aligned to using digital tools to broaden perspectives and enrich learning by collaborating with others and working effectively in teams locally and globally	Instructional material is 75-99% aligned to using digital tools to broaden perspectives and enrich learning by collaborating with others and working effectively in teams locally and globally	Instructional material is 50-74% aligned to using digital tools to broaden perspectives and enrich learning by collaborating with others and working effectively in teams locally and globally	Instructional material is 25-49% aligned to using digital tools to broaden perspectives and enrich learning by collaborating with others and working effectively in teams locally and globally	No alignment to using digital tools to broaden perspectives and enrich learning by collaborating with others and working effectively in teams locally and globally

Category 1b: Materials must measure meets/exceeds in ALL criteria. (Circle one)

Meet | Does Not Meet

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Category 2: Access and Equity

Exceeds = 4	Meets = 3	Developing = 2	Limited = 1	Not Present = 0
100% of grade level appropriate teacher supports are provided to guide teachers in making student learning relevant, ways for students to share their experiences, connections to previous experiences, draw and connect to language and culture, etc.	75-99% of grade level appropriate teacher supports are provided to guide teachers in making student learning relevant, ways for students to share their experiences, connections to previous experiences, draw and connect to language and culture, etc.	50-74% of grade level appropriate teacher supports are provided to guide teachers in making student learning relevant, ways for students to share their experiences, connections to previous experiences, draw and connect to language and culture, etc.	25-49% of grade level appropriate teacher supports are provided to guide teachers in making student learning relevant, ways for students to share their experiences, connections to previous experiences, draw and connect to language and culture, etc.	No grade level appropriate teacher supports are provided to guide teachers in making student learning relevant, ways for students to share their experiences, connections to previous experiences, draw and connect to language and culture, etc.
Curriculum and instructional materials are made accessible to all students by providing four or more supports AND scaffolds consistently throughout (Supports include: differentiated reading material, language needs, etc., Scaffolds include: prompts, sentence frames, graphic organizers, anchor charts, etc.).	Curriculum and instructional materials are made accessible to all students by providing at least three supports AND scaffolds consistently throughout (Supports include: differentiated reading material, language needs, etc., Scaffolds include: prompts, sentence frames, graphic organizers, anchor charts, etc.).	Curriculum and instructional materials are made accessible to all students by providing at least two supports AND scaffolds consistently throughout (Supports include: differentiated reading material, language needs, etc., Scaffolds include: prompts, sentence frames, graphic organizers, anchor charts, etc.).	Curriculum and instructional materials are made accessible to all students by providing only one support AND scaffold (Supports include: differentiated reading material, language needs, etc., Scaffolds include: prompts, sentence frames, graphic organizers, anchor charts, etc.).	Curriculum and instructional materials are not made accessible to all students and no supports or scaffolds are provided. (Supports include: differentiated reading material, language needs, etc., Scaffolds include: prompts, sentence frames, graphic organizers, anchor charts, etc.).
Provides four or more diverse opportunities for students to represent, share, justify, and revise their thinking consistently throughout the material.	Provides at least three diverse opportunities for students to represent, share, justify, and revise their thinking consistently throughout the material.	Provides at least two diverse opportunities for students to represent, share, justify, and revise their thinking consistently throughout the material.	Provides at least one diverse opportunity for students to represent, share, justify, and revise their thinking consistently throughout the material.	Provides no opportunity for students to represent, share, justify, and revise their thinking consistently throughout the material.
Curriculum and instructional materials provide appropriate images, text, and activities which represent the diversity of our current society in a culturally responsive manner throughout 100% of the material.	Curriculum and instructional materials provide appropriate images, text, and activities which represent the diversity of our current society in a culturally responsive manner throughout 75-99% of the material.	Curriculum and instructional materials provide appropriate images, text, and activities which represent the diversity of our current society in a culturally responsive manner throughout 50-74% of the material.	Curriculum and instructional materials provide appropriate images, text, and activities which represent the diversity of our current society in a culturally responsive manner throughout 25-49% of the material.	Curriculum and instructional materials provide no appropriate images, text, and activities which represent the diversity of our current society in a culturally responsive manner throughout the material.

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Exceeds = 4	Meets = 3	Developing = 2	Limited = 1	Not Present = 0
Curriculum and instructional materials include assurance from publishers agreeing to comply with the most current National Instructional Materials Accessibility Standard (NIMAS) specifications regarding accessible instructional materials.	N/A	N/A	N/A	N/A

Category 2: Materials must measure meets/exceeds in ALL criteria. (Circle one)

Meet /Does Not Meet

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Category 3: Assessment

Exceeds = 4	Meets = 3	Developing = 2	Limited = 1	Not Present = 0
A coherent assessment system that includes four or more opportunities for pre-, embedded formative, summative, and self-assessment tasks to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.	A coherent assessment system that includes at least three opportunities for pre-, embedded formative, summative, and self-assessment tasks to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.	A coherent assessment system that includes at least two opportunities for pre-, embedded formative, summative, and self-assessment tasks to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.	A coherent assessment system that includes at least one opportunity for pre-, embedded formative, summative, and self-assessment tasks to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.	Assessment system includes no opportunities for pre-, embedded formative, summative, and self-assessment tasks to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.
Both formative and summative assessments use four or more task types, to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.	Both formative and summative assessments use at least three task types, to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.	Both formative and summative assessments use at least two task types, to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.	Both formative and summative assessments use at least one task type, to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.	Both formative and summative assessments do not use any task types, to include equitable considerations for culturally and linguistically diverse students consistently throughout the material.
The formative and summative assessments are aligned to 100% of the NVACS for Computer Science and/or Integrated Technology (as described in Category 1).	The formative and summative assessments are aligned to 75-99% of the NVACS for Computer Science and/or Integrated Technology (as described in Category 1).	The formative and summative assessments are aligned to 50-74% of the NVACS for Computer Science and/or Integrated Technology (as described in Category 1).	The formative and summative assessments are aligned to 25-49% of the NVACS for Computer Science and/or Integrated Technology (as described in Category 1).	The formative and summative assessments do not align to the NVACS for Computer Science and/or Integrated Technology (as described in Category 1).
Both formative and summative assessments provide four or more opportunities for self, peer, and teacher feedback consistently throughout the material.	Both formative and summative assessments provide at least three opportunities for self, peer, and teacher feedback consistently throughout the material.	Both formative and summative assessments provide at least two opportunities for self, peer, and teacher feedback consistently throughout the material.	Both formative and summative assessments provide at least one opportunity for self, peer, and teacher feedback consistently throughout the material.	Formative and summative assessments do not provide opportunities for self, peer, and teacher feedback consistently throughout the material.

CATEGORY 3: TOTAL SCORE / POINTS POSSIBLE (0-16)

Exceeds (16 pts)

Meets (12-15 pts)

Developing (8-11 pts)

Limited (4-7 pts)

Does Not Meet (0-3 pts)

____ / 16 pts

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Category 4: Teacher Instructional Resources which Support NVACS for Computer Science and/or Integrated Technology

Exceeds = 4	Meets = 3	Developing = 2	Limited = 1	Not Present = 0
Four or more language practices are consistently utilized and embedded throughout the material to support students to develop grade-appropriate, subject-specific technical language.	At least three language practices are consistently utilized and embedded throughout the material to support students to develop grade-appropriate, subject-specific technical language.	At least two language practices are consistently utilized and embedded throughout the material to support students to develop grade-appropriate, subject-specific technical language.	At least one language practices are consistently utilized and embedded throughout the material to support students to develop grade-appropriate, subject-specific technical language.	No language practices are utilized and embedded in the material to support students to develop grade-appropriate, subject-specific technical language.
Four or more teacher resources include pedagogical background information (including relevant, contemporary research) to help teachers support all students throughout the instructional material.	At least three teacher resources include pedagogical background information (including relevant, contemporary research) to help teachers support all students throughout the instructional material.	At least two teacher resources include pedagogical background information (including relevant, contemporary research) to help teachers support all students throughout the instructional material.	At least one teacher resource includes pedagogical background information (including relevant, contemporary research) to help teachers support all students throughout the instructional material.	No teacher resources include pedagogical background information (including relevant, contemporary research) to help teachers support all students throughout the instructional material.
Teacher resources include four or more instructional strategies, digital tools, and/or media examples to deepen student learning consistently throughout the material.	Teacher resources include at least three instructional strategies, digital tools, and/or media examples to deepen student learning consistently throughout the material.	Teacher resources include at least two instructional strategies, digital tools, and/or media examples to deepen student learning consistently throughout the material.	Teacher resources include only one instructional strategy, digital tool, and/or media example to deepen student learning consistently throughout the material.	Teacher resources do not include instructional strategies, digital tools, and/or media examples to deepen student learning.

CATEGORY 4: TOTAL SCORE / POINTS POSSIBLE (0-12)

- Exceeds (12 pts)**
- Meets (9-11 pts)**
- Developing (6-8 pts)**
- Limited (3-5 pts)**
- Does Not Meet (0-2 pts)**

_____ / 12 pts

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Category 5: Inquiry Based Process Aligned to NVACs for Computer Science and/or Integrated Technology

Exceeds = 4	Meets = 3	Developing = 2	Limited = 1	Not Present = 0
Instructional materials provide four or more supports and allows for students to make evidence-based claims consistently throughout the material	Instructional materials provide at least three supports and allows for students to make evidence-based claims consistently throughout the material	Instructional materials provide at least two supports and allows for students to make evidence-based claims consistently throughout the material	Instructional materials provide only one support and does not allow for students to make evidence-based claims consistently throughout the material	Instructional materials do not provide any support and does not allow for students to make evidence-based claims.
Instructional materials provide four or more opportunities for students to identify questions in order to investigate a topic or event consistently throughout the material.	Instructional materials provide at least three opportunities for students to identify questions in order to investigate a topic or event consistently throughout the material.	Instructional materials provide at least two opportunities for students to identify questions in order to investigate a topic or event consistently throughout the material.	Instructional materials provide only one opportunity for students to identify questions in order to investigate a topic or event consistently throughout the material.	Instructional materials do not provide opportunities for students to identify questions in order to investigate a topic or event consistently throughout the material.
Instructional materials provide four or more opportunities for students to develop a reasonable explanation on a given topic or event consistently throughout the material.	Instructional materials provide at least three opportunities for students to develop a reasonable explanation on a given topic or event consistently throughout the material.	Instructional materials provide at least two opportunities for students to develop a reasonable explanation on a given topic or event consistently throughout the material.	Instructional materials provide only one opportunity for students to develop a reasonable explanation on a given topic or event consistently throughout the material.	Instructional materials do not provide opportunity for students to develop a reasonable explanation on a given topic or event consistently throughout the material.
Instructional materials provide four or more lessons and activities that are inquiry-based and are made accessible to all students consistently throughout the material.	Instructional materials provide at least three lessons and activities that are inquiry-based and are made accessible to most students consistently throughout the material.	Instructional materials provide at least two lessons and activities that are inquiry-based and are made accessible to some students consistently throughout the material.	Instructional materials provide only one lesson and activity that is inquiry-based and has limited accessibility to students consistently throughout the material.	Instructional materials do not provide any lessons or activities that are inquiry-based and are not made accessible to students consistently throughout the material.

CATEGORY 5: TOTAL SCORE / POINTS POSSIBLE (0-16)

- Exceeds (16 pts)**
- Meets (12-15 pts)**
- Developing (8-11 pts)**
- Limited (4-7 pts)**
- Does Not Meet (0-3 pts)**

_____ / 16 pts.

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Using JUST Category 1a: TOTAL SCORE POSSIBLE (0-88)	Using BOTH Categories 1a and 1b: TOTAL SCORE POSSIBLE (0-116)	OVERALL SCORE:
Exceeds (88) Meets (63-87) Developing (42-62) Limited (22-41) Does Not Meet (0-21) _____ /88 pts	Exceeds (116) Meets (84-115) Developing (56-83) Limited (29-55) Does Not Meet (0-28) _____ /116 pts	_____ pts

NAME OF EVALUATOR: _____ EMAIL: _____

TITLE OF MATERIAL: _____

FINAL RECOMMENDATION (Circle One):

EXCEEDS | MEETS | DEVELOPING | LIMITED | DOES NOT MEET