



Colorado Standards Review and Revision Summary of Proposed Standards: Computer Science

October 16, 2017

Colorado state law requires the development of voluntary Colorado Academic Standards (CAS) for computer science for secondary students to be completed by July 2018. This document provides a summary of the development process, an overview of the computer science standards committee, and the big ideas within the proposed Computer Science (CS) Standards. The development of standards for computer science has been occurring at the same time as the review and revision process for the CAS. Public feedback is being sought from Oct. 16 through Nov. 27, 2017. For more information, please visit:

<http://www.cde.state.co.us/standardsandinstruction/casreview-publicfeedbackresources>.

The review committees propose common changes to the structure of the standards that apply to all content areas. These include:

- Changing the title of the *Prepared Graduate Competencies* section of the standards document to *Prepared Graduate Statements* to reduce confusion with competency-based learning systems of instruction and assessment practices.
- Changes to the title of the right side of the standards document from *21st Century Skills and Readiness Competencies* to *Academic Context and Connections*. The sections within the *Academic Context and Connections* continue to focus on inquiry, application and relevance. The committees are proposing some variation to the sub-sections in order to capture the unique subject specific elements needed to create context for learning.

This proposal does not constitute a change for the computer science standards since they are new nonetheless, the recommendation is for these statements to remain consistent across content areas.

Proposed Standards Applicable to All Grades (9th grade through 12th grade):

- The revision committee proposes that the computer science standards are written within a 9th through 12th grade band rather than as grade level specific standards and are intended for all high school students.
- The revision committee proposes three strands within the Computer Science standards: Computational Thinking, Computing Systems and Networks, and Computer Programming.
- Computational Thinking includes concepts around related to and using algorithms in different ways, and representing, visualizing, and analyzing data to generate new knowledge and articulate solutions to real world problems,
- Computing Systems and Networks includes concepts related to the creation of and the communication between software and hardware, and systems thinking around data protection and recovery.
- Computer Programming includes concepts related to creating computer programs and applications, working collaboratively to engage in client-based problem solving, and internet security.

For further detail regarding the standards development process the following resources are available:

- [Review Criteria for High Quality Academic Standards](#): This resource provides a compilation of critical elements needed for high quality state standards.

- [Online feedback system](#): This system enables all Coloradans to review the revisions embedded within the standards and offers commenting capabilities to share feedback directly to the review and revision committees.

For more information about the standards review and revision process, please visit:

<https://www.cde.state.co.us/standardsandinstruction/casreview>.

For more information about the Computer Science committee, please visit:

<http://www.cde.state.co.us/standardsandinstruction/cas-committees-computerscience>.