This revised draft reflects the consensus decisions of the Computer Science, Library Media/Information Literacy, and Technology Integration Negotiated Rulemaking Committee, held on January 10, 2020.

The committee will meet again on February 12, 2020 to complete its review of the ninth-twelfth grade standards proposal and program delivery standards recommendations.

Please visit the OPI K-12 Content Standards and Revision webpage for meeting agenda, minutes, video recording, and other meeting materials.

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TECHNOLOGY INTEGRATION CONTENT STANDARDS FOR GRADES K-12

1. The content areas covered by the technology integration standards include skills for:
   a. empowered learners
   b. digital citizens
   c. knowledge constructors
   d. innovative designers
   e. computational thinkers
   f. creative communicators
   g. global collaborators
   h. reflective users
TECHNOLOGY INTEGRATION CONTENT STANDARDS FOR KINDERGARTEN

1. The empowered learner content standards for kindergarten are that each student will:
   a. identify a variety of technologies that will help them in their learning

2. The digital citizen content standards for kindergarten are that each student will:
   a. practice appropriate use of devices
   b. share information and respect the work of others
   c. recognize the importance of keeping personal information private

3. The innovative designer content standards for kindergarten are that each student will:
   a. use a design process with digital and non-digital tools

4. The computational thinker content standards for kindergarten are that each student will:
   a. identify how technology is used to make a task easier
TECHNOLOGY INTEGRATION CONTENT STANDARDS FOR FIRST GRADE

1. The empowered learner content standards for first grade are that each student will:
   a. identify a variety of technologies that will help them in their learning

2. The digital citizen content standards for first grade are that each student will:
   a. practice responsible use of technology
   b. practice appropriate use of devices
   c. share information and respect the work of others
   d. recognize the importance of keeping personal information private and how to be safe online

3. The innovative designer content standards for first grade are that each student will:
   a. use a design process to develop ideas or creations
   b. use digital and non-digital tools to design a product

4. The computational thinker content standards for first grade are that each student will:
   a. break down a problem into parts and identify ways to solve the problem
TECHNOLOGY INTEGRATION CONTENT STANDARDS FOR SECOND GRADE

1. The empowered learner content standards for second grade are that each student will:
   a. identify a variety of technologies that will help them in their learning

2. The digital citizen content standards for second grade are that each student will:
   a. practice responsible use of technology
   b. practice appropriate use of devices
   c. identify ownership of information and acknowledge the work of others
   d. explain the importance of keeping personal information private and how to be safe online

3. The knowledge constructor content standards for second grade are that each student will:
   a. identify a variety of tools to organize information

4. The innovative designer technology content standards for second grade are that each student will:
   a. use a design process to develop ideas or creations
   b. use digital and non-digital tools to design a product

5. The computational thinker content standards for second grade are that each student will:
   a. break down a problem into parts and identify ways to solve the problem
   b. explain how technology can make a task easier

6. The creative communicator content standards for second grade are that each student will:
   a. use tools to create something that communicates an idea to others
TECHNOLOGY INTEGRATION CONTENT STANDARDS FOR THIRD GRADE

1. The empowered learner content standards for third grade are that each student will:
   a. set personal learning goals and use appropriate tools to set and support a personal learning goal
   b. recognize how skills can be transferred between tools

2. The digital citizen content standards for third grade are that each student will:
   a. practice responsible use of technology
   b. demonstrate appropriate use of devices
   c. demonstrate how to be safe online
   d. demonstrate ownership of information and acknowledge the work of others
   e. recognize the importance of keeping personal information private

3. The knowledge constructor content standards for third grade are that each student will:
   a. identify digital tools and resources to find information on topics of interest
   b. explore the accuracy, credibility, and relevance of sources
   c. use a variety of tools to organize information

4. The innovative designer content standards for third grade are that each student will:
   a. define questions, find solutions, test ideas to solve problems and share their learning
   b. use digital and non-digital tools to design a product with a step-by-step design process

5. The computational thinker content standards for third grade are that each student will:
   a. define a problem and select appropriate technology tools to explore and find solutions
   b. identify patterns and categories in a data set
   c. break down problems into smaller parts, identify key information, and propose solutions
   d. evaluate how technology is used to make a task easier or repeatable

6. The creative communicator content standards for third grade are that each student will:
   a. use strategies for remixing or repurposing resources to create new works
   b. create digital objects to communicate ideas visually and graphically

7. The global collaborator content standards for third grade are that each student will:
   a. practice working with others using collaborative technologies
TECHNOLOGY INTEGRATION CONTENT STANDARDS FOR FOURTH GRADE

1. The empowered learner content standards for fourth grade are that each student will:
   a. develop learning goals and choose the appropriate technology tools to achieve them
   b. explore technologies and transfer their learned skills to different tools or learning environments

2. The digital citizen content standards for fourth grade are that each student will:
   a. recognize the role an online identity plays in the digital world and in real life
   b. practice safe, legal and ethical behavior when using technology and interacting online
   c. identify ownership of intellectual property and acknowledge the work of others
   d. identify what personal data is, the importance of keeping it private, and how it might be shared online

3. The knowledge constructor content standards for fourth grade are that each student will:
   a. use research techniques to locate digital resources
   b. explore the accuracy, perspective, cultural sensitivity, credibility, and relevance of sources
   c. use a variety of strategies to organize information and make meaningful connections between resources

4. The innovative designer technology content standards for fourth grade are that each student will:
   a. practice using digital and non-digital tools to plan and manage a design process
   b. use a design process to solve a problem

5. The computational thinker content standards for fourth grade are that each student will:
   a. solve problems by selecting technology, analyzing data, and creating models
   b. break down problems into smaller parts, identify key information, and propose solutions

6. The creative communicator content standards for fourth grade are that each student will:
   a. identify the features and functions of a variety of creation or communication tools
   b. create original works by practicing strategies for remixing or repurposing
   c. create digital objects to communicate ideas visually and graphically

7. The global collaborator content standards for fourth grade are that each student will:
   a. use collaborative technologies to connect with people from different backgrounds or cultures, including peers, experts and community members, to explore different points of view on various topics
TECHNOLOGY INTEGRATION CONTENT STANDARDS FOR FIFTH GRADE

1. The empowered learner content standards for fifth grade are that each student will:
   a. develop learning goals, select the technology tools to achieve them, and reflect
      on and revise the learning process as needed to achieve goals
   b. transfer their learned skills to different tools or learning environments

2. The digital citizen content standards for fifth grade are that each student will:
   a. demonstrate an understanding of the role an online identity plays in the digital
      world and the permanence of their decisions when interacting online
   b. engage in safe, legal and ethical behavior when using technology and interacting
      online
   c. demonstrate respect for intellectual property when using and sharing the work of
      others
   d. explain what personal data is, how to keep it private, and how it might be shared
      online

3. The knowledge constructor content standards for fifth grade are that each student will:
   a. employ appropriate research techniques to locate digital resources
   b. evaluate the accuracy, perspective, cultural sensitivity, credibility, and relevance
      of sources
   c. organize information and make meaningful connections between resources

4. The innovative designer technology content standards for fifth grade are that each
   student will:
   a. use digital and non-digital tools to plan and manage a design process
   b. use a design process to develop and test prototypes

5. The computational thinker content standards for fifth grade are that each student will:
   a. explore or solve problems by selecting technology for data analysis, modeling
      and algorithmic thinking
   b. break down problems into smaller parts, identify key information, and propose
      solutions
   c. identify basic concepts related to automation, patterns, and algorithmic thinking

6. The creative communicator content standards for fifth grade are that each student will:
   a. identify and use the features of a variety of creation or communication tools
   b. use a variety of strategies for remixing or repurposing to create new works
   c. create digital objects to communicate ideas visually and graphically

7. The global collaborator content standards for fifth grade are that each student will:
   a. use appropriate digital tools to work with people from a variety of different
      backgrounds or cultures
   b. perform a variety of roles within a team using age-appropriate technology to
      complete a project or solve a problem
TECHNOLOGY INTEGRATION CONTENT STANDARDS FOR SIXTH - EIGHTH GRADES

1. The empowered learner content standards for sixth-eighth grades are that each student will:
   a. define personal learning goals, select and manage appropriate technologies to achieve them, and reflect on their successes and areas of improvement in working toward those goals
   b. navigate a variety of technologies and transfer personal knowledge and skills to learn how to use new technologies

2. The digital citizen content standards for sixth-eighth grades are that each student will:
   a. manage digital identities and demonstrate an understanding of how the digital footprint is permanent and can impact reputation
   b. demonstrate positive, safe, legal and ethical habits when using technology and when interacting with others online
   c. demonstrate and model the appropriate use of intellectual property of print and digital media, including copyright, permission and fair use, by creating a variety of media products that include appropriate citation and attribution elements
   d. demonstrate how to keep personal data secure and understand how data-collection technologies work

3. The knowledge constructor content standards for sixth-eighth grades are that each student will:
   a. use research strategies effectively to locate appropriate digital resources in support of learning
   b. evaluate the accuracy, perspective, cultural sensitivity, credibility and relevance of resources
   c. define and consider potential biases in resources
   d. locate and collect resources from a variety of sources and organize into collections for a range of projects and purposes

4. The innovative designer technology content standards for sixth-eighth grades are that each student will:
   a. select and use digital tools to support design processes, identify constraints and trade-offs, and weigh risks
   b. engage in a design process to develop, test and revise prototypes or create innovative products
   c. use the process of trial and error and understand problems or setbacks as potential opportunities for improvement

5. The computational thinker content standards for sixth-eighth grades are that each student will:
   a. investigate and practice solving problems by using data analysis, modeling or algorithmic thinking
b. organize data and use technology to display, analyze, solve problems and make decisions
c. break down problems into component parts, identify key pieces and use that information to problem solve
d. demonstrate an understanding of how automation works and use algorithmic thinking to design and automate solutions

6. The creative communicator content standards for sixth-eighth grades are that each student will:
   a. select appropriate platforms and tools to create, share, and communicate their work
   b. create original works or responsibly remix and repurpose other digital resources into new creative works
   c. communicate complex ideas clearly using various digital tools to convey the concepts in a variety of accessible formats

7. The global collaborator content standards for sixth-eighth grades are that each student will:
   a. identify and use collaborative technologies to connect with others
   b. identify and select a role within a team to meet goals, based on knowledge of technology and content, as well as personal preference

8. The reflective user content standards for sixth-eighth grades are that each student will:
   a. evaluate personal preferences for use of technology tools for different tasks or purposes
1. The empowered learner content standards for ninth-twelfth grades are that each student will:
   a. set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process to improve learning outcomes
   b. build networks and customize their learning environments in ways that support their learning process
   c. use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways
   d. demonstrate the ability to choose, use, and troubleshoot current technologies, and transfer their knowledge to explore emerging technologies

2. The digital citizen content standards for ninth-twelfth grades are that each student will:
   a. cultivate and manage a positive digital identity and reputation
   b. engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices
   c. respect the rights and obligations of creating, using, and sharing intellectual property
   d. manage their personal data to maintain digital privacy and security

3. The knowledge constructor content standards for ninth-twelfth grades are that each student will:
   a. use research strategies to locate information and resources for their intellectual or creative pursuits
   b. evaluate the accuracy, perspective, cultural sensitivity, credibility, and relevance of information, media, data, or other resources
   c. curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions

4. The innovative designer technology content standards for ninth-twelfth grades are that each student will:
   a. initiate a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems
   b. select and use digital tools to plan and manage a design process that considers design constraints and calculated risks
   c. develop, test and refine prototypes as part of a cyclical design process

5. The computational thinker content standards for ninth-twelfth grades are that each student will:
   a. identify problems suited for technology-assisted methods for data analysis, abstract models, and algorithmic thinking
b. collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making

c. break down problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving

d. explain how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions

6. The creative communicator content standards for ninth-twelfth grades are that each student will:
   a. choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication
   b. create original works or responsibly repurpose or remix digital resources into new creative works
   c. communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations
   d. publish, present, and defend content that customizes the message and medium for their intended audiences

7. The global collaborator content standards for ninth-twelfth grades are that each student will:
   a. identify and use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning
   b. identify and use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints
   c. contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal

8. The reflective user content standards for ninth-twelfth grades are that each student will:
   a. evaluate historical, cultural, and social impacts of technology innovations on individuals and groups, including American Indians
   b. explain how technology innovations influence their individual technology tool and resource preferences
TECHNOLOGY INTEGRATION PROGRAM DELIVERY STANDARDS

Chapter 55

1. In general, a basic program in technology integration education shall:
   a. meet the following conditions:
      i. development of skills that lead to lifelong pursuits;
      ii. provide opportunities for authentic application, work experience, and articulation with postsecondary education
      iii. integrate and transfer technology skills across grade levels, content areas, and programs
      iv. provide access to emerging technology across grade levels, content areas, and programs
   b. include the following practices:
      i. full progression of skills and knowledge from basic to advanced
      ii. full integration of technology competencies with academic knowledge in a contextual setting
      iii. include whole group, teacher-led, or personalized instruction