K-12 Computer Science Standards Writing Steering Committee

Claiborne Building | Thomas Jefferson Room 1-136 | 1201 North Third Street, Baton Rouge, LA 70802

August 13, 2024

Call to Order

Roll Call

Agenda

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I. Call to Order

II. Roll Call

III. Approval of minutes of the meeting held July 30, 2024

IV. Consideration of a summary report regarding the grade band workgroup recommendations for computer science content standards on Concept 5: Impacts of Computing

V. Consideration of an update report regarding the work of the computer science grade band workgroups

Approval of minutes of the meeting held July 30, 2024

Consideration of a summary report regarding the grade band workgroup recommendations for computer science content standards on Concept 5: Impacts of Computing

Overarching Themes

- All three workgroups agreed that students understand and practice appropriate behaviors to remain safe, protect their privacy, follow computing laws, and demonstrate responsible cyber-citizenship.

- Two of the three work groups wanted students to appreciate, reflect, and use the historical computing achievements of the past to innovate the computing world of tomorrow.

- There was a consensus on making sure students model and practice appropriate computing social interactions for both business purposes and their personal well being.

Core Concept 5 Impacts of Computing

Overview: Computing affects many aspects of our world in both positive and negative ways. The uses of computing systems vary greatly from the local, regional, national, and global level. Individuals and communities influence computing through their behaviors, and social interactions, industry practices, and laws. Computer and data science reflexively impact individuals and communities by creating new means of communication, increasing information exchanges, and providing a cyberspace medium for people to work within. An informed and responsible individual must be aware of the ways in which computer and data science impact their lives.

Subconcept

Intellectual Achievements

Computing influences the way knowledge is shared and generated. Computing has increased the ways that information is shared and has impacted humanity's history in many ways. Computing has contributed to many academic disciplines and is used in schools and industry as a vital component of learning. In early grades, students learn how computing can be helpful and harmful. Students will learn about the relevant contributions computing has made to humanity's history throughout grades K-12. As students progress through grades 6-12, they will learn about how innovations in computing, emerging technology, and data use help shape learning, business, and industry.

Subconcept

Social Interaction

Computing has supported new methods of communication and has increased the ways people collaborate, work, learn, and express ideas. In early grades, students learn that computing can connect people and serve as a support to interpersonal communication. As students progress through grades 6-12 they will follow the appropriate norms for communicating via computer systems, model the appropriate online business and industry practices for communication, and examine how computing influences social interactions.

Subconcept

Laws, Safety, and Industry Practices

Computer and data science are in a state of continuous growth and advancement. New and emerging technologies will continue to expand opportunities for people to explore and create computational artifacts. The legal and safe use of computing systems is a critical part of the learning in grades K-12. Students in all grades must be aware of business and industry computing norms and the appropriate actions to be a responsible cyber citizen. In early grades, students will learn the fundamental laws and practices that can keep them safe and within the appropriate uses of technology and digital media. In grades 6-12, students will engage with legal and social issues that impact how computing resources are developed, shared, and protected. Students will learn how data is shared, influenced, and governed through a variety of laws and business practices.

9-12 Content

9-12 Intellectual Achievements
1A. Analyze the key milestones of computer science, historical events influenced by computer science, and the people connected to them.
1B. Explain how innovations in computer science and technology enable advancements in other fields of study.

9-12 Content

9-12 Social Interaction
2A. Describe how cyberspace is becoming a universal medium for connecting humans, the economy, business, and computing.
2B. Evaluate the adoption and adaptation of social norms from the physical world to the cyber world.

9-12 Content

9-12 Laws, Safety, and Industry Practices
3A. Describe and analyze the motives of online threat actors to a user's personal safety, privacy, and well-being.
3B. Explain how the interconnectedness of cyberspace can lead to physical and digital vulnerabilities.
3C. Compare and contrast the varied approaches to govern data, intellectual property, control information access, and the ways to be aware of guidance.
3D. Debate laws and industry regulations that impact the development and use of computational artifacts.

9-12 Content

9-12 Laws, Safety, and Industry Practices
3E. Debate the ethical considerations of creating and publishing computational artifacts.
3F. Analyze the data provenance of computational artifacts.
3G. Explain how individuals and organizations can exert influence on personal and societal perceptions and practices through computing technologies.

6-8 Content

6-8 Intellectual Achievements
1A. Identify foundational computational advancements through the use of the cycle of technological innovation.
1B. Plan and devise new ideas and solutions for problems with inspiration from previous discoveries in computational knowledge.

6-8 Content

6-8 Social Interaction
2A. Analyze communication technologies and describe their influences on individuals and society.
2B. Generate designs that increase the accessibility and usability of technology for various groups of users.
2C. Develop and propose norms for informal versus formal online communications.

6-8 Content

6-8 Laws, Safety, and Industry Practices
3A. Recommend and propose computing use guidance to maintain a user's personal safety, privacy, and well-being.
3B. Identify applicable laws that impact personal, industry, or business computing practices.
3C. Describe and categorize factors that affect user's access to computing resources locally, nationally, and globally.

K-5 Content

K-5 Intellectual Achievements
1. Describe how computing has changed the ways people live and work.
K-5 Social Interaction
2A. Identify examples of cyberbullying with age-appropriate responses to address it.
2B. Identify and describe examples of appropriate computing communications versus inappropriate computing communications.

K-5 Content

K-5 Laws, Safety, and Industry Practices
3A. Describe the safe versus unsafe uses of computing systems at age appropriate levels.
3B. Explain how the school and school system ’s computing rules and policies keep students safe.
3C. Explain how online actions have real-world consequences and that laws and rules may also apply online.

Progression of Concept

The final subconcept, Laws, Safety, and Industry Practices is one of the most unifying of the Louisiana Student Standards for Computer Science. Preparing our students to become responsible cyber citizens, engage in careers of the future, and follow legal and normative practices is essential to their success. This subconcept uses age appropriate standards to see how computing impacts our laws, social communication, digital arts, and careers.

Recess

Consideration of an update regarding the work of the computer science grade band workgroups