



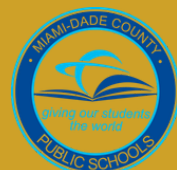
REPORT

State of Florida Computer Science (CS) Standards for K-12 Grades Effective 2025-26 SY

- **Additions**
- **Modifications**
- **Instructional Implications**



**Knight Foundation
School of Computing
and Information Sciences**



An Educator's Guide to the new Florida State CS Standards [2025-26]

This guide was initiated by Florida International University's UKG Academy for CS & Education within the Knight Foundation School of Computing & Information Sciences, in collaboration with leaders from Miami-Dade County Public Schools.

A task force of four Florida CS educators was commissioned to evaluate the new state standards for CS in K-12 grades and report on the changes and implications to classroom instruction.

Florida's shift to K-12 grade-specific computer science standards reflects a commitment to developing digital literacy, responsible technology use, and real-world problem-solving skills across all grade levels. The updated framework introduces developmentally appropriate instruction in areas such as digital balance and healthy digital habits, cybersecurity awareness, and foundational artificial intelligence concepts, as well as emerging topics like digital currencies and financial management. These changes ensure that students gain the tools they need to navigate an increasingly digital world.

This detailed report is designed to help teachers, curriculum specialists, and instructional leaders understand and implement the new Florida State CS Standards for K-12 Grades, starting in the 2025-26 Academic Year.

FIU's UKG Academy for CS & Education extends its gratitude to the following Florida educators for their contributions: Vijayshree Sundar, Monika Moorman, Matthew Gross, and Michael Sakowicz.

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What's Inside?

Structural and Conceptual Shifts in the Florida CS Standards

- Overview of the transition from banded standards and bodies of knowledge to grade-specific standards organized into multiple strands that vary by elementary, middle, and high school levels.

Key Conceptual and Content Changes

- A side-by-side comparison of the previous standards with the new grade-specific structure that begins in Kindergarten and progresses annually through Grade 12.

Content Shifts & Refinements

- Easy-to-read breakdowns of how each major area of computer science has evolved from Communication and Collaboration to Programming, Health & Safety, and more.

K	1	2	3	4	5	6	7	8	9-12
Communication and Collaboration (CC)									
Personal Health and Safety (HS)									
Computing Components (CO)									
Programming and Software Engineering Strand (PE)									
Technological Impact (TI)									
						Emerging Technologies (ET)			
						Cyber Security (CS)			
						Digital Currencies and Financial Management (DC)			
Computational Thinking and Reasoning Standards (CTR)									

Instructional Implications

- Insights and suggestions on how to adjust planning, pacing, and pedagogy to match the new grade-level expectations.

Final notes

- Guidance on integrating K–12 CS standards into core subjects, selecting appropriate tools, ensuring device access, and fostering collaboration for effective implementation.

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 Florida's State Academic Standards for CS - K-12

 Computer Science Standards Progression - K-12

 Computer Science Course Descriptions - K-12

 Computer Science Resources on CPALMS.org

 **Elementary K-5 CS Key Shifts - Overview**

 **Grades 6-8 CS Key Shifts - Overview**

 **Grades 9-12 CS Key Shifts - Overview**

OVERVIEW OF MAJOR CHANGES

Grades K - 2



Resources:

K-12 Resources

Elementary K-5 CS Key Shifts - Overview

1. Structural Shift

- Previous Standards (2016): Organized by grade bands (e.g., K–2 and 3–5), with general statements that allowed flexibility across multiple grade levels.
- New Standards (2025/26): Organized by individual grade level (K, 1, 2), allowing clearer progression of skills, knowledge, and expectations across elementary years.

2. Conceptual Organization

- **Old Standards (2016):** Grouped under **four** main Bodies of Knowledge:
 - **CS-PC:** Personal, Community, Global, and Ethical Impact
 - **CS-CC:** Communication and Collaboration
 - **CS-CS:** Communication Systems and Computing
 - **CS-CP:** Computer Practices and Programming
- **New Standards (2025/26):** Organized into **five categories** that integrate concepts and the overarching K-12 CTR: Computational Thinking and Reasoning umbrella:
 - **CC:** Communication and Collaboration
 - **HS:** Personal Health and Safety
 - **CO:** Computing Components
 - **PE:** Programming and Software Engineering
 - **TI:** Technological Impact

FLORIDA COMPUTER SCIENCE STANDARDS (GRADES K–2)

Key Conceptual and Content Changes

Theme	Old (K–2 Band)	New (Grade-Specific)	What Changed?
Digital Citizenship & Safety	SC.K2.CS-PC.1, PC.4 (digital safety, passwords, ethical use)	SC.K.HS.1, SC.1.HS.1, SC.2.HS.1	Now age-progressive: Kinder explores asking adults before using devices, Gr. 2 discusses secure login credentials and password strength.
Health & Technology Use	Mentioned lightly under device usage	SC.K.HS.2, SC.1.HS.2, SC.2.HS.2	Emphasis added on healthy tech habits, balance, and sensory impacts.
Communication & Collaboration	SC.K2.CS-CC.1 (basic tools, collaborating, feedback)	SC.K–2.CC.1 (progressively builds from giving feedback to simulations)	More scaffolded, specific skills per grade. Gr. 2 introduces simulations explicitly.
Hardware & Software	SC.K2.CS-CS.4 (device recognition, basic input/output)	SC.K.CO.1, SC.1.CO.1, SC.2.CO.1	Now includes typing, icons, creating multimedia, identifying network tools. Gradual sophistication added by grade.
Programming Concepts	SC.K2.CS-CP.2, CP.3 (simple tasks, block coding, steps)	SC.K.PE.1–3, SC.1.PE.1–3, SC.2.PE.1–3	Now clearly sequenced: CVC word typing in Kinder; pattern extension in Grade 1; conditional logic and coding segments in Grade 2.
Data and Problem Solving	SC.K2.CS-CP.1, CS-CS.2 (basic data handling, sorting)	SC.K.PE.2–3, SC.1.PE.2–3, SC.2.PE.2–3	Shift from general to more applied data practices; Gr. 2 focuses on visualizations and sorting by relevance.

Key Conceptual and Content Changes

Modeling & Simulations	SC.K2.CS-CS.1 (basic description)	SC.2.CC.1.4, SC.K12.CTR.7	Now embedded in problem-solving, modeling appears as a way to solve real-life issues using computational thinking.
Computational Thinking	Implied via problem solving and simple tasks	New Domain: SC.K12.CTR.1–7	Major shift: Introduces perseverance, decomposition, fluency, algorithm design, and data evaluation from Kindergarten forward.
Artificial Intelligence (AI)	Minimal mention	SC.1.TI.1.3, SC.2.TI.1.3	Introduced explicitly in Grades 1–2: recognizing and comparing AI-powered devices.
Ethics & Copyright	Included under PC.4 (ownership, privacy)	Embedded in TI and HS strands	Now part of accuracy, safety, and responsible use, with more clarity around digital content consent and validity of sources.

Content Shifts & Refinements

Communication & Collaboration (SC-CC)

Old standards:

- Broad benchmarks: identifying digital tools, keyword searches, collaborating to solve problems, providing feedback

New standards:

- **Kindergarten:** Naming and exploring tools like classroom tablets and digital libraries.
- **1st Grade:** Basic searches, sharing info via teacher-guided email/text
- **2nd Grade:** Deeper collaboration—solving class problems using shared tools; giving and receiving feedback on group projects

- ✓ **Improvement:** More precise, age-appropriate progression - three distinct expectations rather than lumped together across ages

Personal Health & Safety (SC-HS; formerly SC-PC)

Old standards:

- General care of devices, digital citizenship, identifying private info, safety

New standards:

- **Kindergarten:** Handling devices properly, logging out/shutting down correctly
- **1st Grade:** Recognizing private info and when not to share online
- **2nd Grade:** Distinguishing safe vs. unsafe communications; reinforcing device care habits

- ✓ **Improvement:** Introduces health and safety themes progressively; shifts from abstract citizenship to concrete, grade-level behaviors

Computing Components (SC-CO; formerly SC-CS)

Old standards:

- Identifying hardware/software, input/output devices, simulations, algorithms

New standards:

- **Kindergarten:** Recognizing classroom devices (tablets, keyboards, printers)
- **1st Grade:** Operating basic apps and peripherals; understanding program execution
- **2nd Grade:** Explaining what software is; seeing computers 'run' programs; defining simulations and modeling tools through real-world examples

- ✓ **Improvement:** Devices and software become tangible skills by grade, supporting deeper tech literacy year-by-year

Content Shifts & Refinements

Programming & Software Engineering (SC-PE; formerly SC-CP)

Old standards:

- Introduced algorithms, coding basics, data, and multimedia creation collectively

New standards:

- **Kindergarten:** Identify types of data (text, images, audio); break tasks into steps; start visual programming
- **1st Grade:** Collect and manipulate data (sort, total, average); propose solutions using analysis; create multimedia with adult support
- **2nd Grade:** Build simple block-code programs; construct algorithms without tech; present digital creations independently

✓ **Improvement:** Skills progress logically—data handling, algorithm thinking, then actual coding and presentation

Technological Impact (SC-TI; formerly part of SC-PC)

Old standards:

- Largely embedded within ethical computing and digital responsibility

New standards:

- **Kindergarten:** Recognize how technology helps everyday tasks (“computers make things easier”)
- **1st Grade:** Identify multiple tech uses in daily life and explain using proper terms
- **2nd Grade:** Describe how tech supports work and life; discuss private information and responsible use with contextual awareness

✓ **Improvement:** Focus shifts from abstract ethics to concrete, developmentally appropriate understanding of technology’s role

Instructional Implications (Grades K-2)

[Access Computer Science Resources on CPALMS.org](https://cpalms.org)

1. Emphasis on Early Digital Citizenship and Online Safety

Implication:

- Teachers must begin explicit instruction on digital safety in Kindergarten, including understanding private information, password protection, and the risks of using the Internet. These skills progress to strong passwords and consent for sharing online content by Grade 2.

Actionable Step:

- Incorporate recurring mini-lessons and conversations into the school year that address safe online behavior and privacy awareness, and align these with real-life digital scenarios students may encounter.

2. Development of Foundational Computer Literacy

Implication:

- Students are now expected to identify hardware and software components, operate input/output devices, and begin typing and creating with digital tools starting in Kindergarten and progressing through Grade 2.

Actionable Step:

- Provide structured opportunities for students to regularly interact with devices—such as logging in, identifying parts, and using creative tools like drawing apps or keyboards—within content area lessons.

3. Integration of Computational Thinking Through Patterning, Sequencing, and Logic

Implication:

- Beginning in Kindergarten, students are introduced to sequencing and logic. By Grade 2, they are expected to recognize and extend patterns, apply conditional logic, and develop basic algorithms.

Actionable Step:

- Integrate pattern-based and step-by-step activities into daily routines—such as math games, literacy centers, and unplugged coding—to build computational thinking habits.

Instructional Implications (Grades K-2)

[Access Computer Science Resources on CPALMS.org](https://cpalms.org)

4. Use of Digital Tools for Communication and Creative Expression

Implication:

- Students are expected to create and communicate ideas using technology tools—from drawing or recording in Kindergarten to composing full sentences and visual presentations in Grade 2.

Actionable Step:

- Incorporate simple digital creation tasks (e.g., digital posters, voice recordings, story animations) into literacy, science, or social studies projects to allow students to practice digital expression.

5. Gradual Introduction to Data and Problem-Solving Concepts

Implication:

- Students engage with data early by sorting and comparing items and evolve toward collecting and analyzing data visually to solve problems by Grade 2.

Actionable Step:

- Model data activities like tallying class preferences or tracking weather patterns, and use simple charts or graphs to help students make sense of the information and draw conclusions.

6. Awareness of Technology’s Role in Daily Life and Society

Implication:

- Students explore how technology helps in everyday tasks and are introduced to devices (including AI-powered tools) used in school, home, and work settings.

Actionable Step:

- Create classroom discussions or centers that feature real-world technology tools and include role-play, comparisons (e.g., past vs. present tools), or storybooks showcasing technology in action.

Instructional Implications (Grades K-2)

[Access Computer Science Resources on CPALMS.org](https://cpalms.org)

7. Clear Expectation of Safe, Balanced Technology Use

Implication:

- The standards now explicitly call for students to recognize the importance of balancing screen time with physical activity and understanding the effects of digital device use on well-being.

Actionable Step:

- Embed screen time guidelines into class culture—such as using movement breaks, digital timers, or reflective discussions—and link technology use with healthy habits through cross-curricular activities.

Final Notes for K-2 Educators:

- The K–2 CS standards require **intentional integration** into the general education curriculum—not isolated technology instruction.
- Teachers need support in **selecting age-appropriate tools**, ensuring **device access**, and embedding **computational thinking strategies** within core subjects.
- **Professional development and collaboration** with media specialists or STEM teachers can enrich implementation, especially in small group or center-based rotations.

OVERVIEW OF MAJOR CHANGES

Grades 3 - 5



Resources:

K-12 Resources

Elementary K-5 CS Key Shifts - Overview

1. Structural Shift

- Previous Standards (2016): Organized by grade bands (e.g., K–2 and 3–5), with general statements that allowed flexibility across multiple grade levels.
- New 2025 Standards (2025/26): Organized by individual grade level (3, 4, 5), allowing clearer progression of skills, knowledge, and expectations across elementary years.

2. Conceptual Organization

- **Old Standards (2016):** Grouped under **four** main Bodies of Knowledge:
 - **CS-PC:** Personal, Community, Global, and Ethical Impact
 - **CS-CC:** Communication and Collaboration
 - **CS-CS:** Communication Systems and Computing
 - **CS-CP:** Computer Practices and Programming
- **New Standards (2025/26):** Organized into **five categories** that integrate concepts and the overarching K-12 CTR: Computational Thinking and Reasoning umbrella:
 - **CC:** Communication and Collaboration
 - **HS:** Personal Health and Safety
 - **CO:** Computing Components
 - **PE:** Programming and Software Engineering
 - **TI:** Technological Impact

Key Conceptual and Content Changes

Area	Old standards (2016)	New standards (2025/26)
Structure	One set of standards for Grades 3–5	Grade-specific standards (3, 4, and 5)
Progression	Concepts introduced once and reused	Clearly scaffolded concepts by grade
Terminology	Focused on digital citizenship and programming basics	Broader vocabulary including AI, data trends, peer feedback, and digital fatigue
Focus on Wellness	Some mention of online safety, minimal health emphasis	Strong emphasis on digital wellness, healthy device use, and mental impact
Artificial Intelligence	Brief reference in upper grades	Introduced earlier and explored in more depth
Digital Tools and Products	Emphasis on creating multimedia artifacts	Clear integration of writing, researching, creating, and citing digital products

Content Shifts & Refinements

Communication & Collaboration (SC-CC)

- **Old standards:** Digital tools for collaboration, feedback, teamwork, and presentations.
- **New standards:**
 - **Grade 3:** Emphasis on peer feedback and how simulations aid problem-solving.
 - **Grade 4:** Adds innovation, teamwork, and refining work with feedback.
 - **Grade 5:** Adds discussion of appropriate vs. inappropriate technology use and revising ideas through collaboration.

✓ **Improvement:** Greater clarity and integration of 21st-century collaboration skills, with increasing depth each year.

Health & Safety (SC-PC → SC-HS)

- **Old standards:** Focused mostly on cyberbullying, copyright, and security threats.
- **New standards:**
 - **Grade 3:** Parental controls, age-appropriate content, and digital balance.
 - **Grade 4:** Focuses on website appropriateness, digital behavior, and the permanence of online content.
 - **Grade 5:** Covers safe search tools, threats, and digital fatigue.

✓ **Improvement:** Adds a developmental wellness framework, emphasizing not only safety but healthy digital habits and emotional impacts.

Computing Components (SC-CS → SC-CO)

- **Old standards:** Broad overview of hardware/software, input/output devices, and simulations.
- **New standards:**
 - **Grade 3:** Intro to keyboarding, tool usage, and types of software.
 - **Grade 4:** Keyboarding improves, software types classified, and multimedia artifacts created/published.
 - **Grade 5:** Advanced keyboarding, I/O processing, troubleshooting hardware/software, and understanding networks.

✓ **Improvement:** Clearer grade-specific expectations with deepening tech literacy and computer function knowledge.

Content Shifts & Refinements

Programming & Engineering (SC-CP → SC-PE)

- **Old standards:** Visual programming, algorithms, logical errors, and databases introduced at once.
- **New standards:**
 - **Grade 3:** Introduces basic coding with visuals, user choices, data collection, and repetition.
 - **Grade 4:** Introduces program conditions, graphing data, and computational thinking.
 - **Grade 5:** Arithmetic operators, debugging, databases, and logical error correction.

✓ **Improvement:** Concepts broken into digestible levels; logical sequencing of skills makes instruction more manageable.

Technological Impact (SC-PC → SC-TI)

- **Old standards:** Introduced ethics, cyberbullying consequences, adaptive tech, and responsible use in one standard set.
- **New standards:**
 - **Grade 3:** Covers adaptive tech, everyday AI, copyright, and research.
 - **Grade 4:** Digital literacy, AI impact, and plagiarism awareness.
 - **Grade 5:** Careers, communication tools, digital artifacts, and citations.

✓ **Improvement:** Brings global perspective earlier; AI and ethical usage now spiral from Grade 3 up.

Instructional Implications (Grades 3-5)

[Access Computer Science Resources on CPALMS.org](https://cpalms.org)

1. Clearer Grade-Level Expectations

Implication:

- Teachers now have concrete targets for each grade, reducing ambiguity and making lesson planning more focused
- No more guessing "What is appropriate for Grade 3 vs. Grade 5?" – each grade has its own age-aligned performance outcomes.

Actionable Step:

- Tracking which computer science standards have been addressed throughout the year is a good practice that supports intentional integration across core subjects at each grade level.

2. Stronger Vertical Alignment

Implication:

- The standards create a developmental progression of knowledge and skills from one year to the next.
- Students are more likely to master foundational skills before moving on to advanced ones.

Actionable Step:

- Grade-level teams should collaborate vertically (3rd → 4th → 5th) to ensure students are building toward increasingly complex skills, especially in areas like coding, research, and data use.

3. Curriculum and Resource Adaptation

Implication:

- Existing CS curricula and digital literacy tools may need realignment or replacement.
- Teachers can no longer rely on multi-grade materials that were flexible across 3–5.

Actionable Step:

- Schools should audit current digital and CS resources to ensure they align with the specific grade-level targets.

Instructional Implications (Grades 3-5)

[Access Computer Science Resources on CPALMS.org](https://cpalms.org)

4. Greater Focus on Wellness and Digital Citizenship

Implication:

- Each grade now includes specific lessons on healthy digital habits, safety, and emotional impact of device use.
- Teachers must address screen time balance, digital fatigue, cyberbullying, and ethical behavior more directly and developmentally.

Actionable Step:

- Integrate digital wellness into morning meetings or advisory time.
- Use scenarios or reflection journals for discussion.

5. More Intentional Instructional Design

Implication:

- Teachers must teach specific computing components (like hardware/software, input/output systems, AI, or algorithms) instead of covering general tech usage.

Actionable Step:

- Build mini-lessons or learning centers focused on specific computer science concepts (e.g., “AI in real life,” “Create your own algorithm,” “Input vs. Output scavenger hunt”).

6. Assessment Design and Documentation

Implication:

- New standards require tracking progress in more discrete and measurable ways, especially with simulations, coding projects, and feedback cycles.

Actionable Step:

- Use rubrics, digital portfolios, or student journals to document learning over time.
- Design performance-based tasks (e.g., “Use a digital tool to present research using data you collected”).

Instructional Implications (Grades 3-5)

[Access Computer Science Resources on CPALMS.org](https://cpalms.org)

7. Increased Need for Professional Development(PD)

Implication:

- Teachers (especially generalists in Grades 3–5) may lack comfort or familiarity with some of the newer topics like **AI, algorithms, debugging, and digital fatigue**.

Actionable Step:

- Offer **PD sessions** focused on:
 - Integrating CS into ELA, math, and science
 - Hands-on coding tools (Scratch, Code.org, etc.)
 - Supporting digital wellness in the classroom

8. Opportunities for Cross-Curricular Integration

Implication:

- With topics like **data analysis, digital citizenship, ethical use, and simulations**, teachers can integrate CS standards into:
 - Science labs
 - Reading research projects
 - Social studies (technological change over time)
 - Math graphing and patterns

Actionable Step:

- Plan **interdisciplinary units** that hit both CS standards and core academic standards, e.g., “Research a real-world environmental problem, create a digital infographic, and program a visual model of your solution.”

9. Equity and Access Considerations

Implication:

- As expectations become more specific, students without **equitable access to devices or support at home** may fall behind.

Actionable Step:

- Schools should ensure **in-class time for practice, after-school support** for tech-based tasks, and thoughtful **device distribution** policies.

OVERVIEW OF MAJOR CHANGES

Grades 6 - 8



Resources:

[K-12 Resources](#)

[Grades 6-8 CS Key Shifts - Overview](#)

1. Structural Shift

- Previous Standards (2016): Organized by grade bands (6 - 8), with general statements that allowed flexibility across multiple grade levels.
- New Standards (2025/26): Organized by individual grade level (6, 7, 8) allowing clearer progression of skills, knowledge, and expectations across elementary years.

2. Conceptual Organization

- **Old Standards (2016):** Grouped under **four** main Bodies of Knowledge:
 - **CS-PC:** Personal, Community, Global, and Ethical Impact
 - **CS-CC:** Communication and Collaboration
 - **CS-CS:** Communication Systems and Computing
 - **CS-CP:** Computer Practices and Programming
- **New Standards (2025/26):** Organized into **seven categories** that integrate concepts and the overarching K-12 CTR: Computational Thinking and Reasoning umbrella:
 - **CC:** Communication and Collaboration
 - **HS:** Personal Health and Safety
 - **CO:** Computing Components
 - **PE:** Programming and Software Engineering
 - **TI:** Technological Impact
 - **ET:** Emerging Technologies
 - **CS:** Cyber Security

Key Conceptual and Content Changes

Area	Old standards (2016)	New standards (2025/26)
Terminology	Focused on digital citizenship and programming basics, applications	Broader vocabulary including AI, robotics, security of devices, technology innovations and regulations
Focus on Responsible use of technology	Mention of legal and ethical behaviors, using secure and proper use of technology, of online safety, minimal health emphasis	Strong emphasis on safe Internet practices, mental and physiological effects, digital footprints
Problem Solving	Mention of modeling and simulation, problem solving and knowledge of hardware/software/networks	Emphasis on code segments, problem solving using computational thinking
Digital Tools and Products	Emphasis on creating multimedia artifacts	Clear integration of writing, researching, creating, and citing digital products

Content Shifts & Refinements

Communication & Collaboration (SC-CC)

- **Old standards:** Online tools, designing and developing a collaborative digital product using digital tools.
- **New standards:**
 - **Grade 6:** Focuses on basic digital communication and creating collaborative digital products.
 - **Grade 7:** Advances to using multimedia tools for group collaboration and synthesizing information for unique digital artifacts.
 - **Grade 8:** Shifts to designing sophisticated collaborative processes and publishing digital products individually and collaboratively.

Personal Health and Safety

- **Old standards:** Responsible use of technology and information, impact of computing on local and global society..
- **New standards:**
 - **Grade 6:** Explores basic internet safety (passwords, trusted sources) and introduces digital footprint and online disinhibition.
 - **Grade 7:** Analyzes cyberbullying, online disinhibition's societal impact, and digital practices affecting well-being (sleep, addiction).
 - **Grade 8:** Focuses on implementing safe practices, protecting personal information, and analyzing technology's deeper mental and physiological impacts.

Computing Components

- **Old standards:** Modeling and simulations, problem solving and algorithms, digital tools, hardware and software, networks, human computer interactions and artificial intelligence..
- **New standards:**
 - **Grade 6:** Implements foundational computer literacy, including file types, networks, hardware, and software functions.
 - **Grade 7:** Develops literacy by differentiating file types, understanding hardware-software relationships, and exploring network types.
 - **Grade 8:** Demonstrates advanced fluency by integrating multiple file formats, creating collaborative projects, and exploring hardware/software compatibility and performance.

Content Shifts & Refinements

Programming and Software Engineering

- **Old standards:** Data analysis, computer programming basics and programming applications.
- **New standards:**
 - **Grade 6:** Develops basic code segments using data types, functions, loops, and conditionals; creates visual data representations.
 - **Grade 7:** Constructs coding segments for specific purposes, including functions, lists, logical expressions, and debugging block programming.
 - **Grade 8:** Utilizes advanced coding segments, creates programming processes for problem decomposition, designs applications, and analyzes the software development life cycle.

Technological Impact

- **Old standards:** Security, privacy, information sharing, ownership, licensure, and copyright mentioned under personal, community, global, and ethical impact body of knowledge. .
- **New standards:**
 - **Grade 6:** Researches technology innovations, digital footprints, computer history, and career paths; introduces plagiarism and fair use.
 - **Grade 7:** Researches consumerism and tech advancements, evaluates information use, and analyzes career paths; recognizes copyright law.
 - **Grade 8:** Examines causes and consequences of tech advancements, including digital media's historical impact, and investigates regulatory compliance and ethical behaviors.

Content Shifts & Refinements

Emerging Technologies

- **Old standards:**
 - Human computer interactions and artificial intelligence mentioned under communication systems and computing body of knowledge
- **New standards:**
 - **Grade 6:** Identifies HCI, workplace tech skills, AI characteristics/benefits, and robotics basics
 - **Grade 7:** Recognizes latest technologies, their potential to improve lives, and AI's future role; describes adaptive technologies
 - **Grade 8:** Identifies emerging features of mobile/smart devices, increasing Internet impact, and investigates AI device use and robotics advancement

Cybersecurity

- **Old standards:**
 - No standards mentioned
- **New standards:**
 - **Grade 6:** Explores physical device security, data states, access control, and encryption needs
 - **Grade 7:** Describes physical security (data states, threats), explains access control, defines the CIA triad, and identifies cyberattack types
 - **Grade 8:** Explains physical security (threats/vulnerabilities), evaluates network security (IoT, data permanency), and identifies social engineering attack cycles

Instructional Implications (Grades 6-8)

[Access Computer Science Resources on CPALMS.org](https://cpalms.org)

1. Curriculum Review & Resources:

- Educators must review the "[Standards Progression](#)" document for K-12 alignment. The emphasis on hands-on, project-based learning requires re-evaluating resources and ensuring access to tools like physical computing devices ([micro:bits](#), Arduino), web development software, and game engines. Ethical considerations must be integrated throughout all activities.

2. Professional Development (PD):

- Targeted PD is crucial for new topics like AI, Robotics, advanced Cybersecurity, and SDLC. PD should also cover effective project-based learning strategies and assessment methods for practical skills.

3. Adherence to Course Description:

- The "Digital Discoveries in Society" course description provides detailed guidance for effective implementation.

4. Timeline:

- Courses were adopted November 20, 2024, with implementation in the 2025-26 school year, providing time for planning and PD.

5. Resource Investment:

- The curriculum's focus on "Physical Computing," "Web Page Development," and "Game Development" necessitates significant investment in hardware, software, internet connectivity, and potentially dedicated lab spaces. This requires proactive budget allocation and IT planning.

6. Evolving Educator Role:

- Educators must become facilitators and mentors, guiding students in exploration and ethical deliberation, especially in dynamic fields like AI and Cybersecurity. Continuous learning for educators is essential.

OVERVIEW OF MAJOR CHANGES

Grades 9 - 12



Resources:

K-12 Resources

Grades 9-12 CS Key Shifts - Overview

1. Structural Shift

- Previous Standards (2016): Organized by grade bands (6 - 8), with general statements that allowed flexibility across multiple grade levels.
- New Standards (2025/26): Organized by individual grade level (6, 7, 8) allowing clearer progression of skills, knowledge, and expectations across elementary years.

2. Conceptual Organization

- **Old Standards (2016):** Grouped under **four** main Bodies of Knowledge:
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 - **CS-CC:** Communication and Collaboration
 - **CS-CS:** Communication Systems and Computing
 - **CS-CP:** Computer Practices and Programming
- **New Standards (2025/26):** Organized into **eight categories** that integrate concepts and the overarching K-12 CTR: Computational Thinking and Reasoning umbrella:
 - **CC:** Communication and Collaboration
 - **HS:** Personal Health and Safety
 - **CO:** Computing Components
 - **PE:** Programming and Software Engineering
 - **TI:** Technological Impact
 - **ET:** Emerging Technologies
 - **CS:** Cyber Security
 - **DC:** Digital Currencies and Financial Management

Key Conceptual and Content Changes

Area	Old standards (2016)	New standards (2025/26)
Terminology	Focused on digital citizenship and programming basics	Broader vocabulary including AI, data trends, peer feedback, and digital fatigue
Focus on Wellness	Some mention of online safety, minimal health emphasis	Strong emphasis on digital wellness, healthy device use, and mental impact
Artificial Intelligence	Brief reference in upper grades	Introduced earlier and explored in more depth
Digital Tools and Products	Emphasis on creating multimedia artifacts	Clear integration of writing, researching, creating, and citing digital products

Content Shifts

Communication & Collaboration (SC-CC)

- **Old standards:** Digital tools for collaboration, feedback, teamwork, and presentations.
- **New standards:** One new standard: SC.912.CC.2.4 Critique the strengths and weaknesses of the collaborative process when creating digital products

Health & Safety (SC-PC → SC-HS)

- **Old standards:** Focused mostly on cyberbullying, copyright, and security threats.
- **New:** Mental and physical health concerns, Privacy and “digital footprint” concerns
- ✓ **Improvement:** Adds a developmental wellness framework, emphasizing not only safety but healthy digital habits and emotional impacts.

Computing Components (SC-CS → SC-CO)

- **Old standards:** Broad overview of hardware/software, input/output devices, and simulations.
- **New standards:**
 - Deeper, more rigorous look into each hardware component that makes up a computer
 - A larger scope for networking terms and concepts
- ✓ **Improvement:** Clearer standards that are broken down by hardware component; more rigor on the networking side

Programming & Engineering (SC-CP → SC-PE)

- **Old standards:** Visual programming, algorithms, logical errors, and databases introduced at once.
- **New standards:**
 - Much deeper focus on the fundamentals of coding (variables, loops, functions, etc.
 - More proactive standards that expect much more hands-on coding from students
- ✓ **Improvement:** Concepts broken into digestible levels; much more rigor and clarity for programming fundamentals

Key Conceptual and Content Changes

Technological Impact (SC-PC → SC-TI)

- **Old standards:** Introduced ethics, cyberbullying consequences, adaptive tech, and responsible use in one standard set.
- **New standards:**
 - Impact of social media on culture
 - Legal concerns regarding technology at the federal, state, and local level

✓ **Improvement:** Greater focus on how social media and other web-technologies affect culture and the environment; clearer standards regarding legal impacts of technology.

Emerging Technologies (SC-PC/CS → SC-ET)

- **Old standards:** Minor mentions to AI and other emergent technologies
- **New standards:**
 - Greater focus on AI, robotics and IoT

✓ **Improvement:** Much more up-to-date, particularly regarding AI.

Cybersecurity (SC-PC → SC-ET)

- **Old standards:** Handful of standards regarding the basics of cyber security
- **New standards:**
 - Greater detail regarding specific topics of cyber security
 - New topics about data privacy
 - New standards that require students to create secure networks

✓ **Improvement:** More contemporary information, and greater expectation to develop hands-on skills.

Digital Currencies and Financial Management

- **Old standards:** N/A; Brand new strand
- **New standards:**
 - Blockchain technologies
 - Risks and laws regarding crypto-currencies
 - Financial management software

✓ **Improvement:** All new standards that cover very the important financial implications of crypto-currencies and digital financial tools.

Instructional Implications (Grades 9-12)

[Access Computer Science Resources on CPALMS.org](https://cpalms.org)

1. Increased Emphasis on Collaboration and Communication

- **Implication:** Students must not only work together but also reflect on and critique the collaborative process.
- **Actionable Item:** Incorporate structured peer review sessions where students evaluate each other's contributions and teamwork effectiveness.

2. Focus on Digital Citizenship and Online Safety

- **Implication:** Students are expected to understand and manage their digital presence and safety.
- **Actionable Item:** Assign students to create a personal digital safety plan that includes strategies for managing screen time, privacy, and cyberbullying.

3. Expanded Hardware and Networking Knowledge

- **Implication:** Students must explore and evaluate specific hardware components and network configurations.
- **Actionable Item:** Set up a hands-on lab where students assemble or simulate building a computer and configuring a wired/wireless network.

4. Deeper Programming and Software Engineering Skills

- **Implication:** There is a stronger focus on writing, testing, and debugging code, including object-oriented programming and algorithm development.
- **Actionable Item:** Implement weekly coding challenges that require students to use functions, loops, and classes, followed by peer code reviews.

5. Integration of Computational Thinking in Real-World Contexts

- **Implication:** Students must apply problem-solving strategies like abstraction, decomposition, and modeling.
- **Actionable Item:** Use project-based learning where students design simulations or models to solve real-world problems (e.g., traffic flow, disease spread).
- Use examples of current AI applications and their societal implications.

Instructional Implications (Grades 9-12)

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6. Awareness of Technological Impact and Ethics

- **Implication:** Students are expected to analyze the societal, cultural, and environmental impacts of technology.
- **Actionable Item:** Facilitate debates or case studies on topics like AI bias, digital divide, or environmental costs of tech production.

7. Introduction to Cybersecurity Concepts

- **Implication:** Students must understand vulnerabilities, social engineering, and network security.
- **Actionable Item:** Create a classroom simulation of a cybersecurity breach and have students role-play as security analysts to identify and mitigate threats.

8. Emerging Technologies and AI

- **Implication:** Students are introduced to AI, robotics, and human-computer interaction.
- **Actionable Item:** Assign a research and presentation project where students explore a current AI application and its societal implications.

9. Financial Literacy through Digital Tools

- **Implication:** Students must evaluate digital currencies and financial management tools.
- **Actionable Item:** Have students use a financial app simulator to create a mock budget and analyze the impact of digital currencies on personal finance.



CONTACT US



<https://academy.cs.fiu.edu/>



academy-admin@cis.fiu.edu



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