Florida Department of Education Specifications for the 2026-2027 Florida Instructional Materials Adoption, Grades K-12 Computer Science

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Introduction

These specifications are based upon Rule 6A-7.0710, Florida Administrative Code (F.A.C.). This document specifies the requests for the 2026-2027 Florida instructional materials adoption for Grades K-12 Computer Science. Publishers should review this information carefully. The criteria contained in the document will serve as the basis for the evaluation of instructional materials bid for adoption.

The K-12 Computer Science call for adoption is comprised of the courses listed in Tables 1-3 of this document. Each course has an updated course description available online at www.cpalms.org (the course numbers in Tables 1-3 link to the appropriate course page in CPALMS).

- Materials bid for adoption must clearly and completely align to each of the standards, benchmarks, clarifications and examples included in the applicable course description to be deemed acceptable for adoption.
- Materials will be thoroughly evaluated to ensure the content is accurate, appropriately rigorous and comprehensive in its coverage of each of the standards, benchmarks, clarifications and examples in the course description and the additional criteria outlined in this document.
- Special attention should be given to both the course description in CPALMS and any additional notes that are contained in each course description and/or emphasis by grade level/course.
- Additionally, materials will be thoroughly evaluated to ensure that content aligns with Florida Statutes and State Board of Education Rule.

This adoption is for materials to be utilized in the classroom in the 2027-2028 academic year and beyond. As such, publishers must be sure to select the course description for the latest available academic year. The latest version of each course description, which should be utilized for developing materials for the 2026-2027 K-12 Computer Science adoption is indicated in Tables 1-3 below.

2026-2027 K-12 Computer Science Adoption

Florida will only accept bids for materials designed to serve as the major tool of instruction (which may include ancillary materials) for the courses listed in the tables below.

Table 1 K-5 Computer Science:

Course Number	Grade Level	Course Name	Course Version
5002040	3-5	Grades 3-5 Unplugged Computer Science	2025 and beyond
5002030	K	Kindergarten Foundations of Computer Science	2025 and beyond
5002031	1	Grade 1 Foundations of Computer Science	2025 and beyond
5002032	2	Grade 2 Foundations of Computer Science	2025 and beyond
5002033	3	Grade 3 Foundations of Computer Science	2025 and beyond
5002034	4	Grade 4 Foundations of Computer Science	2025 and beyond
5002035	5	Grade 5 Foundations of Computer Science	2025 and beyond

Table 2 6-8 Computer Science:

Course Number	Grade Level	Course Name	Course Version
0200021	6-8	M/J Grade 6 Digital Discoveries	2025 and beyond
0200022	6-8	M/J Grade 7 Digital Discoveries	2025 and beyond
0200023	6-8	M/J Grade 8 Digital Discoveries	2025 and beyond
0200024	6-8	M/J Navigating Technology: Digital Literacy and Digital Citizenship	2025 and beyond
0200025	6-8	M/J Introduction to Cybersecurity	2025 and beyond

Table 3 9-12 Computer Science:

Course Number	Grade Level	Course Name	Course Version
0200382	9-12	Computer Programming Fundamentals Honors	2025 and beyond
0200381	9-12	Conceptual Cybersecurity	2025 and beyond
0200383	9-12	Principles of Computer Science	2025 and beyond
0200384	9-12	Discovering Computer Science	2025 and beyond

Major Priorities for Instructional Materials
K-12 Computer Science Requirements

The priorities described in this specifications document are developed from research findings about what makes instructional materials effective. These priorities have undergone review by individuals who have served on state and district committees, curriculum specialists, instructional designers, evaluation specialists and administrators of the statewide adoption system.

To ensure instructional materials are grade-appropriate, of good quality and content and aligned to applicable Florida state academic standards, each material will be evaluated based on compliance to section (s.) 1001.215(4), Florida Statutes (F.S.). In order to be considered for state adoption, materials must meet evaluation criteria and be recommended at each level.

The following priorities constitute the rubric for the evaluation of instructional materials for state adoption. Additionally, a focus on alignment to course standards, benchmarks, clarifications and examples will determine adoption eligibility, as followed by the review process established in chapter 1006, F.S.

- Content
- Presentation
- Learning
- Florida state academic standards alignment
- Adherence to s. 1003.42(3), F.S., and all other applicable State Board of Education rules

The following sections describe essential features for each of the priority areas. These features generally apply to all formats of instructional materials, whether print or other media/multiple media formats.

I. Content

These features include:

A. Alignment with Curriculum Requirements

B. Level of Treatment of Content

C. Expertise for Content Development

D. Accuracy of Content

E. Currentness of Content

F. Authenticity of Content

G. Multicultural Representation

H. Humanity and Compassion

A. Alignment with curriculum requirements

Content must align with the state's standards for the subject, grade level and learning outcomes. See ss. 1006.34(2)(b), 1006.38(3)(b) and 1006.31(2), F.S.

Correlations: Publishers are expected to provide correlation reports in the provided form to show exactly where and to what extent (mentioned or in-depth) the instructional materials cover each required standard and benchmark.

Scope: The content should address Florida's required state academic standards and benchmarks for the subject, grade level and learning outcomes, including thinking and learning skills.

Completeness: The content of the major tool should be complete enough to stand on its own. To be useful for classroom instruction, instructional materials must be adaptable to the instructional goals and course outlines for individual school districts, as well as the state standards. Content should have no major omissions in the required content coverage and be free of unrelated facts, information and strategies that would detract from achievement of Florida's state academic standards.

B. Level of treatment of content

Content must be appropriate for the framework, standards, student abilities and grade level, and time periods allowed for teaching. See ss. 1006.31(2) and 1006.34(2)(b), F.S.

Purpose: Content should be simple, complex, technical or nontechnical enough to meet the educational objectives of the course.

Students: Content should be developmentally appropriate for the age and maturity level of the intended students. It should contain sufficient details for students to understand the significance of the information presented and to engage in reflection and discussion.

Time: Content should allow for its coverage during the time period available for teaching the subject.

C. Expertise for content development

Expertise in the content area and in education of the intended students must be reflected in the authors, reviewers and sources that contributed to the development of the materials. See s. 1006.38(14), F.S.

Authorship: The authors, consultants and reviewers must have actually contributed to the development of the instructional materials and should have credentials that reflect expertise in the subject area, course, course category, grade level, pedagogy, education, teaching or classroom instruction. Qualifications may include expertise in educational psychology or instructional design.

Sources: Primary and secondary sources should reflect expert information for the subject, such as original documents, relevant data from research journals and other recognized scientific sources. The type of sources considered appropriate will vary with the particular subject area.

D. Accuracy of content

Content must be accurate in historical context and contemporary facts and concepts. See ss. 1006.38(8), 1006.31(2) and 1006.35, F.S.

Objectivity: Content that is included in the materials should accurately represent the domain of knowledge and events. It should be factual and objective. It should be free of mistakes, errors, inconsistencies, contradictions within itself and biases of interpretation. It should be free of the biased selection of information. Materials should distinguish between facts and possible interpretations or opinions expressed about factual information. Visuals or other elements of instruction should contribute to the accuracy of text or narrative.

Representativeness: The selection of content should not misrepresent the domain of knowledge and events. It should include the generally accepted and prevalent theories, major concepts, laws, standards and models used within the discipline of the subject area.

Correctness: Presentation of content should be free of typographical and visual errors. It should include correct grammar, spelling, linguistics, terminology, definitions, descriptions, visuals, graphs, sounds, videos and all other components of the instructional materials.

E. Currentness of content

Content must be up to date for the academic discipline and the context in which the content is presented. See ss. 1006.38(8) and 1006.31(2), F.S.

Dates or editions: Copyright dates for photographs and other materials and editions should suggest sufficient currentness of content. Copyright dates and editions serve as indicators about currentness. However, neither the copyright date nor the edition guarantees currentness. Subsequent editions should reflect more up to date information than earlier editions.

Informed examination of the text, narrative and visuals contained in the materials provides the most direct information about currentness of the materials.

Context: Text or narrative, visuals, photographs and other features should reflect the time periods appropriate for the objectives and the intended learners.

a. Sometimes context should be current. For example, a photograph used to show stages of human growth and development will be more relevant when the clothing, hairstyles and activities reflect present-day styles.
b. Sometimes context should be historical. For example, illustrations and photographs of historical events should reflect the historical time period.
c. Sometimes context should be both current and historical. For example, historic images alongside modern ones would convey changes in styles over time.
d. At all times the context should be relevant to the learner, to the standards, benchmarks, clarifications and examples and to the concept presented.

F. Authenticity of content

Content should include problem-centered connections to life in a context that is meaningful to students. See ss. 1006.31(2), 1006.34(2)(b) and 1003.42, F.S.

Life connections: Instructional materials should include connections to the student's life situations to make the content meaningful. Students might be expected to deal with time constraints, consider risks

and trade-offs in decision-making and work with teams. Connections may be made to situations of daily home life, careers, vocation, community events and services and leisure or recreation.

Interdisciplinary treatment: Instructional materials should include interdisciplinary connections to make content meaningful. Examples of situations that connect a variety of subject areas include building projects, playing sports, retrieving information or objects, balancing budgets, creating products and researching information. In addition to subject area connections, instructional materials should connect the course or course category to other disciplines. Examples of approaches to interdisciplinary connections include: explanations and activities for using skills and knowledge from other academic disciplines, assignments that require students to relate learning from other disciplines rather than to isolate knowledge or skills and focus on common themes across several subject areas.

G. Accurate representation

Portrayal of sex, ethnicity, age, work situations and various social groups must include accurate representation. See ss. 1003.42, 1006.31(2)(a) and 1006.34(2)(b), F.S.

Representation: Instructional materials must accurately portray the ethnic, socioeconomic, cultural, religious, physical and racial diversity in our society, including men and women in professional, career and executive roles, and the role and contributions of the entrepreneur and labor in the total development of this state and the United States.

Additionally, instructional materials shall include the vital contributions of African Americans to build and strengthen American society and celebrate the inspirational stories of African Americans who prospered, even in the most difficult circumstances. Furthermore, instructional materials shall include the contributions of Asian Americans and Pacific Islanders to American society.

Effective treatment of such issues requires consideration of the age and ability levels of students and whether it is appropriate to include such issues in the study of a particular topic.

H. Humanity and compassion

Portrayal of the appropriate care and treatment of people and animals must include compassion, sympathy and consideration of their needs and values, and exclude pornography, materials harmful to minors under s. 847.012, F.S., and inhumane treatment. See ss. 1003.42, 1006.31(2)(c) and 1006.34(2)(b), F.S.

Instances of compassion: When providing examples in narrative or visuals, materials sometimes depict the care and treatment of people and animals. Generally, this means showing in some way a measure of compassion, sympathy or consideration of their needs and feelings.

Exclusion of inhumanity: Florida expressly prohibits material containing *pornography* (ss. 1006.31 and 1006.40(3)(c), F.S.). In addition, instructional materials should not advocate any form of inhumane treatment. As with the evaluation of multicultural representation, it is important to consider the context of the subject and the age and abilities of the students.

II. Presentation

Features of presentation affect the practical usefulness of materials and the ease of finding and understanding content. These features include:

A. Comprehensiveness of Parent, Student and Teacher Resources

B. Alignment of Instructional Components

C. Organization of Instructional Components

D. Readability of Instructional Materials

E. Pacing of Content

F. Ease of Use of Materials

The following sections describe the presentation features expected for each of these areas.

A. Comprehensiveness of parent, student and teacher resources

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Resources must be complete enough to address the targeted learning outcomes without requiring the teacher to prepare additional teaching materials for the course. See ss. 1006.29(2) and 1006.34(2)(b), F.S.

Materials should contain support for students in completing instructional activities and assessments and for teachers in implementing all the instructional elements. Typically, materials will include test items, study guides, outlines and strategies for teaching, media supplements, learning activities and projects.

The major components generally expected for parent, student and teacher resources are listed below.

Parent resources: Parent resources should be included in student and/or teacher resources for parent access. Materials may include access to the major resource or program with text or narration, visuals and assignments. Formats may include print, audio, visual, computer or other media like CDs, DVDs or PowerPoint presentations. Effective instructional materials generally integrate the use of reference aids (e.g., index, glossary, maps, bibliography, graphic organizers and pictures) with the topic being studied. Items that guide parents through materials might include clearly labeled materials, directions and explanations, and assignments with menus of choices.

Resources might include pre-made materials that can be shared with parents to give knowledge of what to expect of their student during that unit; videos that support how to navigate the student platform; or participation activities such as digital simulations, role-playing situations, investigations and hands-on practice assignments. Review activities might include practice problems with various ways to solve problems. Formats might include digital tutorials and worksheets. Parent resource materials should be available in multiple languages, including English and Spanish, and in closed captioning where applicable.

Student resources: Student materials typically include the major resource or program with text or narration, visuals, assignments and assessments. Formats may include print, audio, visual, computer or other media like CDs, DVDs, or PowerPoint presentations, or software adaptable for interactive whiteboards. Effective instructional materials generally integrate the use of reference aids (e.g., index, glossary, maps, bibliography, graphic organizers and pictures) with the topic being studied. Items that guide students through materials might include clearly labeled materials, directions and explanations, and assignments with menus of choices.

Review and practice activities might include participation activities such as digital simulations, role-playing situations, investigations and hands-on practice assignments. Review activities might include self-checks or quizzes. Formats might include digital education games, student tutorials, worksheets, workbooks, journals, lab books, lab logs, charts or maps. Feedback might be in the form of answer keys in student materials or in teacher materials.

Review works best as a logical extension of content, goals, objectives and lessons, with increased similarity to real-life situations. Review activities should require students to recall or apply previously taught knowledge and skills. Frequent short reviews over time or space improve learning more than a concentrated review. Assignments and stages of small practice improve speed and accuracy.

Other components might include enrichment and remediation activities, additional resources and tests and assessment tools, either in the student materials or in the teacher's guide or edition.

Teacher resources: Teacher materials typically include a teacher's edition with the annotated student text and copies of supplementary materials (print or digital) with answer keys, worksheets, tests, diagrams, etc., so that the teacher may only use one guide. In-service training, workshops and consulting services should be made available by publishers to support teachers in implementing instructional materials. Professional learning is essential to the success of any program, especially when a program contains non-traditional elements. Publishers should clearly indicate the recommended amount and types of professional learning they will provide, and they should work with districts and schools to ensure that teachers receive the support they need. The materials for the teacher should support continued professional learning.

Support, guidelines, resources or features such as the ones described below should be available to help teachers effectively implement materials in classroom and school settings.

(1) **Components and materials are easy to use:** Examples include clearance, license or agreement for copying and use of materials; clear description and accurate directions for use of required equipment, facilities, resources and environment; clearly labeled grade, lesson, content and other information to identify components; and correct specifications for making instructional media and electronic programs work effectively.

(2) **Materials support lesson planning, teaching and learning:** Examples include overview of components and objectives; background for lectures and discussions; technical terminology and reinforcement and review strategies; scope and sequence chart for activities and planning; sample lesson plans; suggestions for individualized study, small-group and large-group presentations and discussions, school-to-work activities, field or laboratory experiences, safety procedures and other extension activities; suggestions for integrating themes across the subject area or course curriculum and forming connections to other disciplines; and suggestions for parental and community involvement.

(3) **Suggestions are provided for adapting instruction for varying needs:** Examples include alternative approaches to teaching, pacing and options for varied delivery of instruction, such as media, tools, equipment and emerging technology; strategies for engaging all students, such as open-ended questions to stimulate thinking, journals, hands-on investigations, explorations and multisensory approaches; suggestions for addressing common student difficulties or adapting to multiple learning styles; and alternative reteaching, enrichment and remediation strategies.

(4) **Guidelines and resources are provided on how to implement and evaluate instruction:** Examples include answers to work assignments, practice activities and tests; sample projects or research results; suggestions for using learning tasks for classroom assessment; and guidelines for alternative assessments, such as sample checklists, rubrics, peer or performance assessments and portfolios.

(5) **Resources are provided to use in classroom activities:** Examples include technology resources; lists of resources and references, reading strategies, materials to use for displays or

photocopies, classroom management strategies and documentation on how to manage the entire instructional program; and in-service workshops or consultation support from the publisher.

B. Alignment of instructional components

All components of an instructional package must align with each other, as well as with the curriculum. See s. 1006.34(2)(b), F.S.

All components of an instructional package — teacher's edition and materials, student's edition and materials, workbook, supplementary materials and others — must be integrated and interdependent and must correspond with each other. For example, support materials in the teacher's edition should align with student activities or assignments. They must match in content and progression of instructional activities.

All components must align to Rule 6A-1.094124, F.A.C., Required Instruction Planning and Reporting, and s. 1003.42, F.S. Instructional materials should not encourage or facilitate a teacher to violate this rule or statute.

C. Organization of instructional materials

The structure and format of materials must have enough order and clarity to allow students and teachers to access content and explicitly identify ideas and sequences. See s. 1006.34(2)(b), F.S.

Providing an explicit and teachable structure can double the amount of information remembered. Clear organization allows students and teachers to distinguish important pieces of information through skimming, reading or browsing. Clear organization may be accomplished through a combination of features, but generally not through one feature alone.

Access to content: Some features help in searching and locating information, such as a table of contents; pull-down menu or sitemap of content; directions on how to locate information or complete assignments; an index for quick reference; goals and/or objectives, outlines, lists or checklists for major sections; bibliographies and lists of resources; glossaries for quick access to major terms; and introductions, key concepts and themes, visual cues, illustrations, labeled examples and labeled reviews or summaries.

Visible structure and format: At-a-glance features should signal the organization of content. The following features are desirable:

- Chapter or unit titles and/or frames;
- Headings and subheadings;
- Typographic cues such as bold, italics or changes in size of type;
- Divisions of content such as borders, boxes, circles, highlighting, visual signposts, icons or color cues;
- Diagrams, labels and visuals placed near the related content; and
- Numbering of pages and other components.

Objectives or a content outline may serve a similar purpose by introducing main ideas, providing guideposts to use in searching for key information or serving as a checklist for self-assessment. Certain types of brief narrative sections also contribute to clear organization. For example, the statement of a clear purpose with content organized around central ideas, principles, concepts and logical relationships supports the unity and flow of information. Introductions also play a major role when they include

anchoring ideas, a list of key points or conceptual schemes, such as metaphors. Summaries also can assist students in understanding the logical order of topics presented.

Logical organization: The pattern of organization of the content should be consistent and logical for the type of subject or topic. Patterns of organization may include compare and contrast, time sequence, cause-effect or problem-solution-effect, concrete to abstract, introduction-review-extension (spiral structure), simple-to-complex, whole-part or part-whole, generalization-examples-review-practice and conflict-inside view-structure.

D. Readability of instructional materials

Narrative and visuals should engage students in reading or listening as well as in understanding of the content at a level appropriate to the students' abilities. See ss. 1006.31(2) and 1006.34(2)(b), F.S.

Language style: Language style and visual features can influence the readability of materials. A popular tool for assessing readability has been the use of a *readability formula* of one type or another. These formulas tend to focus only on a few *countable* characteristics of language style such as the length of words, sentences and/or paragraphs.

Other features are more important in establishing the readability of instructional materials, such as: organized, coherent text language and concepts familiar to the student; language that clarifies, simplifies and explains information; transition words such as "yet," "also," "next," "for example," "moreover" or "however;" other phrases that create logical connections; words with concrete and specific images; active rather than passive voice; varied sentence structures and avoiding both choppy sentences and unnecessary words; and specific questions or directions to guide student attention to visuals or key information.

Visual features: Visual features that improve readability include print that is dark and clear, with good contrast paper with clean-cut edges without glare, computer screens without glare and margins wide enough on a page or screen to allow easy viewing of the text chunking (sentence ends on same page as it begins); visuals that are relevant, clear, vivid and simple enough for students to understand; quantity of visuals suitable for the intended students — both lower ability students and higher ability students tend to require more visuals; unjustified text (ragged on the right) rather than justified (lined up on the right); visuals that contain information in a form different from the text; graphs, charts, maps and other visual representations integrated at their point of use; and colors, size of print, spacing, quantity and type of visuals suitable for the abilities and needs of the intended students.

E. Pacing of content

The amount of content presented at one time or the pace at which it is presented must be of a size or rate that allows students to perceive and understand it. See ss. 1006.31(2) and 1006.34(2)(b), F.S.

It is important that materials contain "bite-size" chunks or blocks of information. The chunks should not be so large, nor the pacing so fast, as to overwhelm students. Neither should the chunks be so small, nor the pacing so slow, as to bore them.

F. Ease of use of materials

Both print and other media formats of instructional materials must be easy to use and replace and be durable enough for multiple uses over time. See ss. 1006.29(4), 1006.38(3)(a), 1006.34(2)(b), 1006.38(5) and 1006.38(6)-(9), F.S.

Warranty: The actual physical and technical qualities of materials should match the description contained in the publisher's warranty.

Use: Materials must be designed for practical use in the classroom and school environments. They must be easy to identify and store. Teachers and students must be able to access and use the materials. Some of the factors influencing their ease of use include number of components, size of components, packaging, quality of materials, equipment requirements and cost to purchase or replace components.

The best choice about weight, size and number of volumes depends on several factors, such as the organization of the content, how well separate volumes may fit time periods for instruction and the ages of students. Technical production requirements, such as page limits or different types of bindings, may lead to multiple volumes.

Examples of classroom use include repeated copying of consumable materials and repeated use of other materials by students over time. Students should be able to easily use the materials and take home, in a convenient form, most of the material they need to learn for the course.

Technology-rich resources should work properly without the purchase of additional software and run without error. Electronic media for student use should be encoded to prevent accidental or intentional erasure or modification. As with textbooks, electronic media should allow students to easily access and interact with them without extensive supervision or special assistance.

The physical and technical qualities of materials should match with the resources of the schools. Materials such as videos, software, CDs and internet sites may serve instructional purposes well but have little value unless they can be implemented with the school's equipment. Publishers should include training, in-service and consultation to help with the effective use of the materials.

Durability: Students and teachers should be able to have materials that will be durable under conditions of expected use. For example, boxes, books or other materials should not fall apart after normal classroom use. The packaging and form of materials should be flexible and durable enough for multiple uses over time. Durability includes considerations such as high-quality paper, ink, binding and cover back, joints, body block and individual pages; worry-free technology that runs properly, with easy to hear, see and control audio and visuals; and the publisher's guarantee for replacement conditions and agreements for reproduction needed to effectively use the materials.

Cost: *Florida's Commissioner of Education will consider the impact of cost in making final decisions.* Cost, while not a direct factor in ease of use, influences the ease with which materials can be obtained or replaced. The impact of cost can be complex to estimate. It requires considering the number of materials available at no additional cost with the purchase of the major program or text, the cost over the adoption period of several years and the number of free materials to support implementation. Attractive features such as higher quality paper and visuals and greater use of color may escalate cost, without enhancing learning effectiveness.

III. Learning

The following features have been found to promote learning and apply to most types of learning outcomes.

A. Motivational Strategies

B. Explicit Instruction

C. Guidance and Support

D. Active Participation

E. Targeted Instructional Strategies

F. Targeted Assessment Strategies

The following sections describe the learning features expected for each of these priority areas.

A. Motivational strategies

Instructional materials must include features to maintain learner motivation. See ss. 1006.31(2), 1006.34(2)(b) and 1006.38(4), F.S.

Expectations: Materials should positively influence the expectations of students. Examples include positive expectations for success; novel tasks or other approaches to stimulate intellectual curiosity; meaningful tasks related to student interests, cultural backgrounds and developmental levels; activities with relevance to the student's life; thought-provoking challenges such as paradoxes, dilemmas, problems, controversies and critical thinking; challenges that are neither too difficult to achieve nor so easy that students become bored; hands-on tasks in a concrete context and images, sounds, analogies, metaphors or humorous anecdotes; and variety, including the opportunity for students to ask their own questions, set their own goals and make other choices during learning.

Feedback: Materials should include informative and positive feedback on progress. Examples include frequent checks on progress, including testing; explanatory feedback with information about correctness of responses, how to avoid or correct common mistakes and/or different approaches to use; and varied forms of assessments (self-assessment, peer assessment and some learning tasks without formal assessments).

Appearance: Materials should have an appearance generally considered attractive to the intended students.

B. Explicit instruction

Instructional materials must contain clear statements of information and outcomes. See ss. 1006.31(2) and 1006.34(2)(b), F.S.

Clarity of directions and explanations: To support success in learning, instructional materials should include clear presentation and explanations of purposes, goals and expected outcomes, concepts, rules, information and terms, models, examples, questions and feedback.

For example, development of specific thinking skills requires an explicit statement of the particular *thinking skills* to be learned, along with the *strategies* or *steps to follow*. Explicit instruction for thinking

skills might also involve showing *examples* of successful thinking contrasted with examples of poor thinking processes.

Similarly, the development of learning skills requires explicit directions about when and how to do activities such as note taking, outlining, paraphrasing, abstracting and analyzing, summarizing, self-coaching, memory strategies, persistence, preview and questioning, reading and listening, reflecting and reciting.

Exclusion of ambiguity: Instructional materials should avoid terms and phrases with ambiguous meanings, confusing directions or descriptions, and inadequate explanations.

C. Guidance and support

Instructional materials must include guidance and support to help students safely and successfully become more independent learners and thinkers. See ss. 1006.31(2) and 1006.34(2)(b), F.S.

Level: The type of guidance and support that helps students to become more independent learners and thinkers is sometimes referred to as *scaffolding*. Scaffolding is a solid structure of support that can be removed after a job has been completed. As students gain proficiency, support can diminish and students can encounter more complex, life-centered problems. Information and activities should provide guidance and support at the level that is needed—no more and no less. Too much support can squelch student interest and too little can lead to failure.

Guidance and support can be accomplished by a combination of the following features: organized routines; advance organizers or models such as condensed outlines or overviews, simplified views of information, visual representations of new information during initial instruction, sample problems questions to focus on key ideas or important features; examples of solved problems; explanations of how the problems were solved; examples of finished products or sample performances; analogies, metaphors or associations to compare one idea to another; prompts or hints during initial practice; step-by-step instructions; immediate and corrective feedback on the accuracy of performance of each step or task on how to learn from mistakes and on how to reach the correct answer; simulations with features for realistic practice; and opportunities for students to do research and to organize and communicate results.

Adaptability: Guidance and support must be adaptable to developmental differences and various learning styles. For example, young children tend to understand concepts in concrete terms and over-generalize new concepts. Some students need more time, some tend to be more impulsive than reflective, some have trouble distinguishing relevant from irrelevant information and some have better written than spoken language skills.

Approaches for developmental differences and learning styles of students include a variety of activities, such as structured and unstructured activities; independent and group work, teacher-directed and discovery learning, visual and narrative instruction, hands-on activities, open-ended activities and practice without extrinsic rewards or grades; simple, complex, concrete and abstract examples; variable pacing or visual breaks; and a variety of *modalities* for the various learning styles of students, such as linguistic- verbal, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, intrapersonal and naturalist.

D. Active participation of students

Instructional materials must engage the physical and mental activity of students during the learning process. See ss. 1006.31(2) and 1006.34(2)(b), F.S.

Assignments: Instructional materials should include organized activities of periodic, frequent, short assignments that are logical extensions of content, goals and objectives.

Student responses: Assignments should include questions and application activities during learning that give students opportunities to respond. For example, information and activities might require students to accomplish types of activities that include: respond orally or in writing; create visual representations (charts, graphs, diagrams and illustrations); generate products; think of new situations for applying or extending what they learn; complete discovery activities; add details to big ideas or concepts from prior knowledge; form their own analogies and metaphors; practice lesson-related tasks and/or procedures.

E. Targeted instructional strategies

Instructional materials should include the strategies known to be successful for teaching the learning outcomes targeted in the curriculum requirements. See ss. 1006.31(2), 1006.34(2)(b) and 1003.42, F.S.

Alignment: Research has documented the strategies that effectively teach different types of learning outcomes. The learning strategies included in instructional materials should match the findings of research for the targeted learning outcomes. Different types of learning outcomes require different strategies. For example, a strategy for memorizing verbal information might be helpful, but it would not align with the strategies required for learning a concept or for learning how to solve a problem.

Completeness: Not only should strategies be aligned, they also should be complete enough to effectively teach the targeted outcomes. For example, while the explanation of a problem-solving method or model would be appropriate, other strategies also would be necessary in order for students to learn how to resolve different types of problems.

Research summary: Researchers sometimes use different terms for some similar outcomes. For example, *thinking skills and metacognition* refer to some of the same types of skills. The following alphabetical list includes terms as they appeared in research, even though some terms clearly overlap with each other:

- attitudes;
- cognitive strategies;
- comprehension/understanding;
- concepts;
- creativity;
- critical thinking;
- insight;
- metacognition;
- motor skills;
- multiple intelligences;
- problem solving;
- procedural knowledge, principles, and rules;
- scientific inquiry;

- thinking skills; and
- verbal information, knowledge or facts;

Effective Teaching Strategies

The following section summarizes the research findings for each of these types of learning outcomes in regards to effective teaching strategies:

Teach *Attitudes*

- Explain and show consequences of choices, actions or behaviors.
- Provide relevant human or social models that portray the desired choices, actions or behaviors.

Teach *Reading*

- Monitor and reflect upon the effectiveness of the reading process used.
- Provide appropriate reading strategies that align with s. 1001.215(7), F.S.
- Link instruction to effective reading.

Teach *Cognitive Strategies*

- Monitor and reflect upon the effectiveness of the reading process used.
- Encourage and/or teach:
    - organizing and summarizing information;
    - self-questioning, self-reflection and self-evaluation;
    - reference skills; and
    - when and how to use these different skills.

Teach *Comprehension/Understanding*

- Outline, explain or visually show what will be read/learned in a simple form.
- Explain with concrete examples, metaphors, questions or visual representations.
- Require students to relate new readings to previously learned information.
- Require students to paraphrase or summarize new information as it is read.
- Require students to construct a visual representation of main ideas (map, table, graphs, Venn diagram, etc.).
- Give students opportunities to add details, explanations or examples to basic information.
- Require application of knowledge or information.

Teach *Concepts*

- Provide clear understanding of each concept.
- Point out important and features or ideas.
- Point out examples of the concept, showing similarities and differences.
- Include practice in organizing and classifying concepts.
- Include a wide range of examples in a progressive presentation from simple to more complex examples.
- Emphasize relationships between concepts.

Teach *Creativity*

- Provide examples of creativity.
- Include models, metaphors and analogies.
- Encourage novel approaches to situations and problems.
- Show and provide practice in turning a problem upside down or inside out or by changing perceptions.
- Encourage brainstorming.
- Include open-ended questions and problems.
- Provide opportunities of ungraded, unevaluated creative performance and behavior.

Teach *Critical Thinking*

- Create conflict or perplexity by using paradoxes, dilemmas, or other situations to challenge concepts, beliefs, ideas and attitudes.
- Focus on how to recognize and generate proof, logic, argument and criteria for judgments.
- Include practice in detecting mistakes, false analogies, relevant vs. irrelevant issues, contradictions, discrepant events and predictions.
- Provide practice in drawing inferences from observations and making predictions from limited information.
- Explain and provide practice in recognizing factors or biases that may influence choice and interpretations such as culture, experience, preferences, desires, interests and passions, as well as systematic thinking.
- Require students to explain how they form new conclusions and how and why present conclusions may differ from previous ones.

Teach *Inquiry*

- Emphasize technological design as inquiry and include discovery activities.
- Provide opportunities for experimental design.
- Provide opportunities for critical thinking.
- Facilitate the collection, display and interpretation of data.
- Promote careful observation, analysis, description and definition.

Teach *Metacognition*

- Explain different types of thinking strategies and when to use them.
- Encourage self-evaluation and reflection.
- Include questions that challenge students to wonder why they are doing what they are doing.
- Guide students in how to do systematic inquiry, detect flaws in thinking and adjust patterns of thinking.

Teach *Technology*

- Provide a mental and physical model of desired performance.
- Describe steps in the performance.
- Provide practice with kinesthetic and corrective feedback (coaching).

Teach *Multiple Intelligences/Learning Modalities*

- Visual learning modality focuses on seeing, watching and looking.
- Auditory learning modality focuses on hearing and responding to verbal information and instructions.

- Motor/kinesthetic learning modality focuses on active involvement and hands-on activities.
- Verbal-linguistic dimension focuses on reasoning with language, rhythms and inflections, such as determining meaning and order of words (stories, readings, humor, rhyme and song).
- Logical-mathematical dimension focuses on reasoning with patterns and strings of symbols (pattern blocks, activities to form numbers and letters).
- Musical dimension focuses on appreciation and production of musical pitch, melody and tone.
- Spatial dimension focuses on activities of perceiving and transforming perceptions.
- Bodily kinesthetic dimension focuses on use and control of body and objects.
- Interpersonal dimension focuses on sensing needs, thoughts and feelings of others.
- Intrapersonal dimension focuses on recognizing and responding to one's own needs, thoughts and feelings.
- Naturalist dimension focuses on appreciation of nature and the environment and on comparing, contrasting and classifying attributes.

Teach *Problem Solving*

- Assure student readiness by diagnosing and strengthening related concept, rule and decision-making skills.
- Provide broad problem-solving methods and models.
- Include practice in solving different types of problems.
- Begin with highly structured problems and then gradually move to less structured ones.
- Use questions to guide thinking about problem components, goals and issues.
- Provide guidance in observing and gathering information, asking appropriate questions and generating solutions.
- Include practice in finding trouble, inequities, contradictions or difficulties and in reframing problems.

Teach *Procedural Knowledge, Principles, and Rules*

- Define context, problems, situations or goals, and appropriate procedures.
- Explain reasons that procedures work for different types of situations.
- Define procedures including rules, principles and/or steps.
- Provide vocabulary and concepts related to procedures.
- Demonstrate step-by-step application of procedures.
- Explain steps as they are applied.
- Include practice in applying procedures.

Teach *Scientific Inquiry*

- Explain process and methods of scientific inquiry.
- Explain and provide examples of (a) hypotheses formation, (b) valid procedures, (c) isolating variables, (d) interpretation of data and (e) reporting findings.
- Encourage independent thinking and avoidance of dead ends or simplistic answers.
- Require students to explain, verify, challenge and critique the results of their inquiry.

Teach *Thinking Skills*

- Introduce different types of thinking strategies.
- Explain context or conditions of applying different strategies.
- Provide definitions, steps and lists to use in strategies.
- Include examples of different types of thinking strategies, including how to think with open-mindedness, responsibility and accuracy.

- Emphasize persisting when answers are not apparent.
- Provide practice in applying, transferring and elaborating on thinking strategies.
- Integrate metacognitive, critical and creative-thinking skills.

Teach *Verbal Information, Knowledge or Facts*

- Provide a meaningful context to link new information and past knowledge.
- Organize information into coherent groups or themes.
- Use devices to improve memory such as mnemonic patterns, maps, charts, comparisons, groupings, highlighting of key words or first letters, visual images and rhymes.
- Identify central ideas, patterns or relationships within information or sets of facts.

F. Targeted Assessment Strategies

Instructional materials should include assessment strategies that are known to be successful in determining how well students have achieved the targeted learning outcomes. See ss. 1006.31(2), 1006.34(2)(b) and 1006.38(4), F.S.

Alignment: The assessment strategies should match the learner performance requirements for the types of learning outcomes that have been targeted for the subject matter or course. Different strategies are appropriate for assessing different types of learning outcomes. For example, a strategy for testing the acquisition of verbal information would not match the requirements for testing whether or not a student has learned a concept or learned how to solve a problem.

The term "assessment," as used in this section, refers to testing or other strategies that assess student progress as a result of learning activities. The results of such assessment provide information about where to strengthen instruction, but it is particularly important to ask the right questions. If the type of question matches the type of learning outcome, then students and teachers have relevant information about learning progress.

Completeness: In addition to including assessment strategies that align with the performance requirements of the targeted learning outcomes, the strategies should be complete enough to effectively assess the learner's performance with regard to the targeted outcome. For example, a test item that requires the student to state a rule does not assess whether or not the student knows how to use the rule.

Research summary: The research summary for effective assessment strategies for different types of learning outcomes follows the same alphabetical sequence as the previous section:

Assess *Attitudes:*

- Provide various situations.
- Require choices about behaviors.

Assess *Cognitive Strategies*

- Provide learning tasks.
- Require students to choose good strategies for learning and/or to learn new materials without teacher guidance.
- Require students to discuss and explain methods used for various learning tasks.

Assess *Comprehension/Understanding*

- Provide topic.
- Require summary or restatement of information.
- Provide new context.

- Require application of information.
- Provide several statements using words different from the initial teaching.
- Require identification of the correct meaning.

Assess *Concepts*

- Provide new examples and non-examples.
- Require identification or classification into the correct categories.

Assess *Creativity*

- Provide new problems to "turn upside down," study or resolve—these could be performances, presentations or products.
- Require products or solutions to fit within the particular functions and resources.
- Provide situations requiring novel approaches.

Assess *Critical Thinking*

- Require students to evaluate information or results.
- Require the use of analysis and research.

Assess *Insight*

- Provide situations for inquiry and discovery.
- Provide situations for manipulation.

Assess *Metacognition*

- Provide different situations or problems.
- Require students to identify types of thinking strategies to analyze and evaluate their own thinking.

Assess *Multiple Intelligences/Learning Modalities*

- Provide situations in the multiple intelligence/learning modalities that are targeted, e.g., verbal-linguistic, musical or other learning modalities.
- Provide situations in several multiple intelligence/learning modalities, to allow choice.
- Require performance in the targeted or chosen multiple intelligence/learning modality.

Assess *Motor Skills*

- Provide situations and resources for performance of the skill.
- Include checklist for evaluation.

Assess *Problem Solving*

- Require students to choose types of problem-solving strategies for different situations.
- Require solutions to structured and unstructured, simple and complex problems.

Assess *Procedural Knowledge, Principles and Rules*

- Provide situations that require students to recognize the correct use of procedures, principles, or rules with routine problems.
- Require students to state procedures, principles or rules.
- Require students to choose which procedures, principles or rules to apply in different situations.
- Provide situations that require students to demonstrate the correct use of procedures, principles or rules with routine problems.

Assess *Scientific Inquiry*

- Provide situations or problems that require speculation, inquiry and hypothesis formation.
- Provide research, hands-on activities and conclusions.

Assess *Thinking Skills*

- Require students to summarize different types of thinking strategies.
- Provide situations that require students to choose the best type of thinking strategy to use.
- Require students to detect instances of open vs. closed-mindedness.
- Require students to detect instances of responsible vs. irresponsible and accurate vs. inaccurate applications of thinking strategies.
- Provide situations that require the student's persistence in order to discover or analyze information to obtain answers to specific questions.
- Require students to apply specific thinking strategies to different real-world situations.

Assess *Verbal Information, Knowledge, or Facts*

- Require students to recall information.
- Require students to restate information.
- Require students to understand information.

Grades K-12 Program Design
Computer Science Expectations

Materials submitted for the 2026-2027 K-12 Computer Science adoption must foster compliance with Rule 6A-1.094124, F.A.C., Required Instruction Planning and Reporting, s. 1003.42, F.S., Required Instruction, and meaningfully incorporate the following concepts to be considered fully aligned to the framework and standards.

Correlation to all of the following is expected for evaluation and approval to be considered for state adoption:

- Evidence that benchmarks are not taught in isolation; and
- Computational Thinking and Reasoning Standards (CTRs), Mathematical Thinking and Reasoning Standards (MTRs), and English Language Arts Expectations (EEs) are appropriately integrated within every lesson/unit of instruction.

Sample of Evidence that Benchmarks Are Not Taught in Isolation

In computer science education, benchmarks should not be taught in isolation. Effective instruction integrates multiple benchmarks to provide a comprehensive learning experience, fostering connections between concepts and reinforcing student understanding. There is no single correct way to incorporate specific benchmarks, allowing educators the flexibility to adapt instruction to meet the unique needs of their students and classroom environments. By embedding benchmarks into broader lessons and activities, educators create more meaningful real-world applications, enabling students to develop a deeper mastery of computer science skills and

knowledge. This integrated approach promotes critical thinking, problem-solving and adaptability in learners, better preparing them for future challenges.

Computational Thinking and Reasoning Standards (CTRs)

The CTRs are built on the following premises:

- Florida's state academic standards for computer science are taught through the lens of the CTRs; the CTRs are embedded throughout every lesson;
- Language of the CTRs are expectations for students to use as self-monitoring tools during instruction every day;
- Ensures that students are engaged, persevere in tasks, share their thinking, balance conceptual understanding and procedures, assess their solutions and make connections to previous and extended knowledge/learning; and
- Standards should not stand alone as a separate focus for instruction but should be combined purposefully.

Mathematical Thinking and Reasoning Standards (MTRs)

The MTRs are built on the following premises:

- Florida's state academic standards for science are taught through the lens of the MTRs; the MTRs are embedded throughout every lesson;
- Language of the MTRs are expectations for students to use as self-monitoring tools during instruction every day;
- Ensures that students are engaged, persevere in tasks, share their thinking, balance conceptual understanding and procedures, assess their solutions and make connections to previous and extended knowledge/learning; and
- Standards should not stand alone as a separate focus for instruction but should be combined purposefully.

English Language Arts (ELA) Expectations (EEs)

The ELA Expectations are those overarching skills that run through every component of instruction. These are skills that students should be using throughout the instruction of Florida's state academic standards for computer science. The ELA Expectations should be interconnected with the computer science benchmarks within every lesson/unit of instruction.

Laboratory Component for Grades K-12

Laboratory investigations which include the use of inquiry, research, problem solving, technologies, experimental procedures and safety procedures are an integral part of the computer science courses for grades K-12. The purpose of the lab component in a K-12 computer science courses is to provide students with hands-on, practical experience, allowing them to apply theoretical concepts in real-world scenarios. Through interactive projects and experimentation, students can develop critical problem-solving and technical skills, fostering a deeper understanding of computing principles and technologies. The lab environment also encourages collaboration, creativity and innovation, helping students to engage more fully with the subject matter.

Structural Framework and Intentional Design of Florida's State Academic Standards for Computer Science

Florida's state academic standards for computer science were built on the following:

- The coding scheme for the standards and benchmarks was changed to be consistent with other content areas. The new coding scheme is structured as follows: Content.GradeLevel/Band.Strand.Standard.Benchmark.
- Strands were streamlined to be consistent from Kindergarten to high school.
- The standards and benchmarks were written to be clear and concise to ensure that they are easily understood by all stakeholders.
- The benchmarks were written to allow teachers to meet students' individual skills, knowledge and ability.
- The benchmarks were written to allow students the flexibility to solve problems using a method or strategy based upon their individual student preference to reliably achieve an accurate result.
- The benchmarks were written to allow for student exploration of methods or strategies that should be embedded within the instruction of benchmarks, rather than to require the usage of a particular method or strategy. The focus of instruction or assessment should not be a particular method or strategy.
- The benchmarks were written to support multiple pathways for success in career and college for students.
- The benchmarks should not be taught in isolation but should be combined purposefully.
- The benchmarks may be addressed at multiple points throughout the year, with the intention of gaining mastery by the end of the year.
- Appropriate progression of content within and across strands was developed for each grade level/course and across grade levels/courses.
- There is an intentional balance of conceptual understanding and procedural fluency with the application of accurate real-world context intertwined within computer science concepts for relevance.
- The use of other content areas, like science and the arts, within real-world problems should be accurate, relevant, authentic and reflect grade-level appropriateness.

Intentional Design of the Computational Thinking and Reasoning Standards

The Computational Thinking and Reasoning Standards (CTRs) are built on the following.

- The CTRs have the same coding scheme as the standards and benchmarks; however, they are written at the standard level because there are no benchmarks.
- In order to fulfill Florida's unique coding scheme, the 5th place (benchmark) will always be a "1" for the MTRs.
- Florida's state academic standards for computer science should be taught through the lens of the CTRs.
- The CTRs should be authentically and appropriately embedded throughout every lesson based on the expectation of the benchmark(s).
- The bulleted language of the CTRs was written for students to use as self-monitoring tools during instruction every day.
- The clarifications of the CTRs were written for teachers to use as a guide to inform their instructional practices.
- The CTRs ensure that students stay engaged, persevere in tasks, share their thinking, balance conceptual understanding and procedures, assess their solutions and make connections to previous learning and extended knowledge.

- The CTRs should not stand alone as a separate focus for instruction but should be combined purposefully.
- The CTRs may be addressed at multiple points throughout the year, with the intention of gaining mastery of computational skills by the end of the year and build upon these skills as they continue in their K-12 education.

Consistent Language Across All Grade/Course Levels

Using the term "benchmark expectations" is essential to ensure that instruction centers on teaching the full breadth and depth of each benchmark, rather than narrowing the focus to learning objectives, essential questions, learning targets or focus areas. This approach promotes a comprehensive understanding of the standards and fosters deeper learning, as students engage with the complete set of skills and knowledge outlined in the benchmarks.

Student-Centered Methods and Strategies to Solve Problems

Florida's state academic standards for computer science were written to allow for student-centered instruction which necessitates that methods and strategies are embedded within instructional materials lessons as appropriate to the problem. Students will explore a variety of methods as a part of instruction, with a goal that students are able to master at least one method that works reliably to achieve an accurate result. In addition, the inclusion of a mix of practice sets will provide students with the opportunity to experience different types of problem-solving within the scope of one lesson.

Intention of Examples and Clarifications

Through Rule 6A-1.09401, F.A.C., Student Performance Standards, the examples and clarifications are adopted as part of Florida's state academic standards for computer science and are to be included within all lessons and units of instruction. The clarifications and examples establish a baseline for mastery of the benchmarks. Instruction can go beyond any limitations or expectations set within clarifications, as appropriate.

Rule 6A-1.094124, F.A.C., Required Instruction Planning and Reporting

Instructional materials must comply with subsection 3 of Rule 6A-1.094124, F.A.C., Required Instruction Planning and Reporting, and all other sections pertinent to ELA education.

Critical Race Theory, Social Justice, Culturally Responsive Teaching, Social and Emotional Learning and any other unsolicited theories that may lead to student indoctrination are prohibited.

Subsection 3 states:

> (3) As provided in Section 1003.42(2), F.S., members of instructional staff in public schools must teach the required instruction topics efficiently and faithfully, using materials that meet the highest standards of professionalism and historical accuracy.
>
> (a) Efficient and faithful teaching of the required topics must be consistent with the state academic standards and the Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards.
>
> (b) Instruction on the required topics must be factual and objective, and may not suppress or distort significant historical events, such as the Holocaust slavery, the Civil War and Reconstruction, the civil rights movement and the contributions of women, African American and Hispanic people to our country, as already provided in Section 1003.42(2), F.S. Examples of theories that distort historical events and are inconsistent with State Board approved standards include the denial or minimization of the Holocaust and the teaching of Critical Race Theory, meaning the theory that racism is not merely the product of prejudice, but that racism is embedded in American society and its legal systems in

order to uphold the supremacy of white persons. Instruction may not utilize material from the 1619 Project and may not define American history as something other than the creation of a new nation based largely on universal principles stated in the Declaration of Independence. Instruction must include the U.S. Constitution, the Bill of Rights and subsequent amendments.

(c) Efficient and faithful teaching further means that any discussion is appropriate for the age and maturity level of the students, and teachers serve as facilitators for student discussion and do not share their personal views or attempt to indoctrinate or persuade students to a particular point of view that is inconsistent with the state academic standards and the Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards.

Prohibition of Critical Race Theory (CRT) and its Applied Principles and Social Emotional Learning

Materials must be aligned to s. 1003.42(3), F.S., which states:

(a) No person is inherently racist, sexist, or oppressive, whether consciously or unconsciously, solely by virtue of his or her race or sex.

(b) No race is inherently superior to another race.

(c) No person should be discriminated against or receive adverse treatment solely or partly on the basis of race, color, national origin, religion, disability, or sex.

(d) Meritocracy or traits such as a hard work ethic are not racist but fundamental to the right to pursue happiness and be rewarded for industry.

(e) A person, by virtue of his or her race or sex, does not bear responsibility for actions committed in the past by other members of the same race or sex.

(f) A person should not be instructed that he or she must feel guilt, anguish, or other forms of psychological distress for actions, in which he or she played no part, committed in the past by other members of the same race or sex.

In addition, materials must be aligned to s. 1000.05(4)(a), F.S., which states:

It shall constitute discrimination on the basis of race, color, national origin, or sex under this section to subject any student or employee to training or instruction that espouses, promotes, advances, inculcates, or compels such student or employee to believe any of the following concepts:

1. Members of one race, color, national origin, or sex are morally superior to members of another race, color, national origin, or sex.
2. A person, by virtue of his or her race, color, national origin, or sex, is inherently racist, sexist, or oppressive, whether consciously or unconsciously.
3. A person's moral character or status as either privileged or oppressed is necessarily determined by his or her race, color, national origin, or sex.
4. Members of one race, color, national origin, or sex cannot and should not attempt to treat others without respect to race, color, national origin, or sex.
5. A person, by virtue of his or her race, color, national origin, or sex, bears responsibility for, or should be discriminated against or receive adverse treatment because of, actions committed in the past by other members of the same race, color, national origin, or sex.
6. A person, by virtue of his or her race, color, national origin, or sex, should be discriminated against or receive adverse treatment to achieve diversity, equity, or inclusion.
7. A person, by virtue of his or her race, color, sex, or national origin, bears personal responsibility for and must feel guilt, anguish, or other forms of psychological distress because of actions, in which the person played no part, committed in the past by other members of the same race, color, national origin, or sex.

8. Such virtues as merit, excellence, hard work, fairness, neutrality, objectivity, and racial colorblindness are racist or sexist, or were created by members of a particular race, color, national origin, or sex to oppress members of another race, color, national origin, or sex.

Social Emotional Learning in instructional materials are considered extraneous, unsolicited strategies prohibited in the specifications for the texts and are not part of the subject-area standards.

Additionally, materials must be aligned to s. 1001.42(8)(c)3., F.S., which states:

> Classroom instruction by school personnel or third parties on sexual orientation or gender identity may not occur in prekindergarten through grade 8, except when required by ss. 1003.42(2)(o)3., and 1003.46, F.S. If the instruction is provided in grades 9 through 12, the instruction must be age-appropriate or developmentally appropriate for students in accordance with state standards.

Digital Resources, Parent Resources and Student Resources

It is the expectation that publishers include digital resources for teachers, parents and students. Digital features might include virtual lectures, primary source analysis, adaptive tasks, various assessment item types, searchable tasks and assessment items by benchmark and interactive activities and lessons that can be completed simultaneously online or on paper.

Access for English Language Learners (ELL) and Students with Disabilities

It is important that the program meets the needs of Florida's students and teachers. A number of different components included in the evaluation document capture the overall quality of the program's design. It is important that the program design includes tiered instruction through a Multi-Tiered System of Supports (MTSS), providing access for all students including ELLs and students with disabilities.

MTSS integrates instruction and intervention, which is delivered to students in varying intensities (multiple tiers) based on student need. Additionally, it ensures that resources reach the appropriate students at the appropriate levels to accelerate the performance of ALL students to achieve and/or exceed proficiency. The program must align all tiers of instruction and intervention.

For ELLs, features are important in establishing the readability of instructional material language and concepts including:

- language that clarifies, simplifies and explains information;
- transition words such as "yet," "also," "next," "for example," "moreover" or "however;"
- words with concrete and specific images;
- active rather than passive voice;
- varied sentence structures and avoidance of both choppy sentences and unnecessary words;
- specific questions or directions to guide student attention to visuals or key information;
- chunking text;
- visuals that are relevant, clear, vivid and simple enough for students to understand;
- quantity of visuals suitable for the intended students;
- visuals that contain information in a form different from the text; and
- graphs, charts, maps and other visual representations integrated at their point of use.

Instructional materials should include multilingual glossaries/dictionaries with content area vocabulary translated into Florida's primary languages: Spanish, Haitian-Creole, Portuguese, Vietnamese, French, Arabic, Chinese, Russian, Tagalog and Urdu.

All students with disabilities are entitled to grade-level accessible instructional materials; therefore, publishers who submit material for consideration will be required to incorporate strategies, materials, activities, accessibility, etc. that consider the special needs of these students. In providing for students with special needs, Florida evaluators should consider the guidelines and information provided by the National Center on Universal Design for Learning at www.UDLCenter.org.

Providing access in a timely manner to both appropriate and accessible instructional materials (AIM) is an inherent component of the provision of a free and appropriate public education (FAPE) under the Individuals with Disabilities Education Act of 2004 (IDEA) for students with disabilities (34 Code of Federal Regulations [CFR] §300.210(b)(3)). The individual educational plan (IEP) team is responsible for determining if a student needs accessible instructional materials, the format of such materials and the necessary related accommodations for the student to participate in the general curriculum. One way to provide AIM is by ensuring that programs include flexible digital instructional materials.

Flexible Digital Instructional Materials

All instructional materials must be provided in formats that are appropriate and accessible for students with disabilities and struggling students to ensure that all students can effectively and independently complete instructional activities addressing the state standards. The following are features that should be available in all digital and online instructional materials.

Presentation Features

- Fonts can be adjusted in type and size.
- Font colors and background colors can be adjusted.
- High contrast color settings are available.
- Text-to-speech tools are included or text can be selected and used with text-to-speech utilities.
- Text-to-speech tools read math formulas correctly.
- All images have alt tags.
- All videos are captioned.
- Text, image tags and captioning can be sent to refreshable Braille displays.

Navigation Features

- Non-text navigation elements (buttons, icons, etc.) can be adjusted in size.
- All navigation elements and menu items have keyboard shortcuts.
- All navigation information can be sent to refreshable Braille displays.

Study Tools

- Highlighters are provided in the four standard colors (yellow, rose, green, blue).
- Highlighted text can be automatically extracted into another document.
- Note-taking tools are available for students to write ideas online as they are processing curriculum content.
- Resizable digital calculators are available in all math materials.
- Information can be entered (e.g., voice, scan, drag and drop) and accessed in a variety of ways.

Assistive Technology Supports

- Assistive technology software can be run in the background. Examples include:
  - Magnification;
  - Text-to-speech;
  - Text-to-American Sign Language;
  - On-screen keyboards;
  - Switch scanning controls; and
  - Speech-to-text.

Flexible digital materials can also support all students within a Universal Design for Learning framework, not just students with disabilities. A feature that supports a student with a disability can also be used by other students. For example, text-to-speech and text-to-audio tools can be used as a reading scaffold for any student who struggles with decoding text. These tools can also be used by gifted students to convert print to audio so they can listen to the content while multi-tasking. Being able to adjust the size of menus and navigation elements helps students who are using switch systems to control a computer as well as help any students use the instructional materials on smaller screens, such as a mobile device or tablet.

Requirements for Production of Accessible Instructional Materials

Instructions for preparing electronic files required for production of instructional materials in Braille and other accessible formats in a timely fashion.
Statutory Authorization

Section 1003.55(5), F.S., states that, "….any publisher of a textbook adopted pursuant to the state instructional materials adoption process shall furnish the Department of Education with a computer file in an electronic format specified by the Department at least 2 years in advance that is readily translatable to Braille and can be used for large print or speech access. Any textbook reproduced pursuant to the provisions of this subsection shall be purchased at a price equal to the price paid for the textbook as adopted. The Department of Education shall not reproduce textbooks obtained pursuant to this subsection in any manner that would generate revenues for the department from the use of such computer files or that would preclude the rightful payment of fees to the publisher for use of all or some portion of the textbook."

Section 1006.29(3), F.S., states that, "Beginning in the 2015-2016 academic year, all adopted instructional materials for students in kindergarten through grade 12 must be provided in an electronic or digital format. For purposes of this section, the term: (a) 'Electronic format' means text-based or image-based content in a form that is produced on, published by, and readable on computers or other digital devices and is an electronic version of a printed book, whether or not any printed equivalent exists. (b) 'Digital format' means text-based or image-based content in a form that provides the student with various interactive functions; that can be searched, tagged, distributed, and used for individualized and group learning; that includes multimedia content such as video clips, animations, and virtual reality; and that has the ability to be accessed at anytime and anywhere. The terms do not include electronic or computer hardware even if such hardware is bundled with software or other electronic media, nor does it include equipment or supplies."

Section 1006.38(15), F.S., states that, "Grant, without prior written request, for any copyright held by the publisher or its agencies automatic permission to the department or its agencies for the reproduction of instructional materials and supplementary materials in braille, large print, or other appropriate format for use by visually impaired students or other students with disabilities that would benefit from use of the materials."

Objective

Electronic formats are needed to accelerate the production of instructional materials in Braille, large print and other appropriate accessible formats. These accessible formats are used by visually impaired students or other students with disabilities utilizing specialized translation software and peripheral devices. Access to Braille, enlarged print, audio and digital materials including web-based online applications is crucial to the successful inclusion of students with disabilities in the classroom. The objective of these statutes is to prompt publishers to provide instructional materials data in an electronic format that will be useful to Braille and other accessible format producers while at the same time allowing each publisher the flexibility of providing files in the current version of: EPub3, HTML5 or MathML3 (as appropriate). Instructional materials that contain mathematical and scientific instructional content are to be marked up by using the MathML3 module of the DAISY/NIMAS Structure Guidelines as posted and maintained at the DAISY Consortium web site: http://www.daisy.org/z3986/structure/SG-DAISY3/index.html.

By April 1 of each year, publishers of adopted student textbooks for instructional materials must be able to provide the approved electronic formats UPON REQUEST. The requested electronic files shall be provided to the Florida Instructional Materials Center for the Visually Impaired (FIMC-VI), 4210 West Bay Villa Avenue, Tampa, Florida 33611; (813) 837-7826.The center will contact each publisher of an adopted textbook and provide delivery instructions.

Federal Requirements for the National Instructional Materials Accessibility Standard (NIMAS)

National Instructional Materials Accessibility Standard guides the production and electronic distribution of digital versions of textbooks and other instructional materials so they can be more easily converted to accessible formats, including Braille and text-to-speech. A National Instructional Materials Access Center (NIMAC) has been established to receive and catalog publishers' electronic files of print instructional materials in the NIMAS format.

These files will be used for the production of alternate formats as permitted under the law for students with print disabilities. Under these guidelines, “textbook” means the principal tool of instruction such as state-adopted instructional materials used in the classroom. It is a printed book or books that contain most, if not all, of the academic content a student needs to learn to meet the State or Local Education Agency’s curriculum requirements for that subject area. “Related core materials” are printed materials, other than textbooks, designed for use by students in the classroom in conjunction with a textbook and which, together with the state adopted textbook, are necessary to meet the curriculum requirements for the intended course. The materials should be directly related to the textbook and wherever possible they should be published by the publisher of the textbook. Related core materials do not include materials that are not written and published primarily for use by students in the classroom (e.g., trade books not bundled with the textbook, newspapers and reference works) or ancillary or supplemental materials that are not necessary to meet the curriculum requirements for the intended course. For purposes of these definitions, the term “curriculum requirements for the intended course” refers to relevant curriculum standards and requirements as established by a state educational agency or local educational agency.

The details of the metadata elements required as part of the NIMAS File set will be found at http://www.nimac.us/pdf/NIMAC_Metadata1.pdf. Please note that some elements are required, while others are optional. Some fields also allow for multiple entries (e.g., subject terms).

Complete information concerning NIMAS and NIMAC can be found at http://aim.cast.org and http://www.nimac.us. (IDEA-2004).

Questions from publishers concerning electronic files in Florida can be directed to Chelsea Strickland at Chelsea.Strickland@fldoe.org.

Contact Information and Links

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Instructional Materials Website
http://www.fldoe.org/academics/standards/instructional-materials

Attachments:

- CTRs, MTRs, EEs and ELDs Evidence (Attachment 1)
- K-12 Evidence that Benchmarks Are Not Taught in Isolation (Attachment 2)
- Core Questions Rubric (Attachment 3)