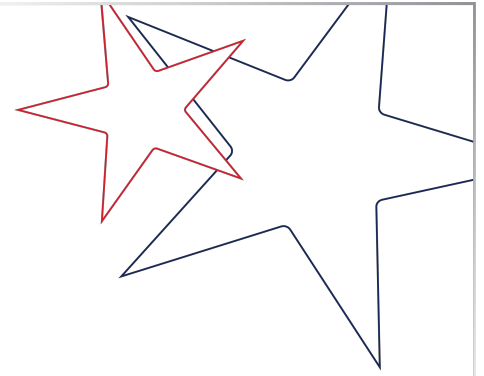


FAQS

Computer Science



ELEMENTARY SCHOOL

How will the MDE monitor elementary computer science instruction for accountability? What are the expectations for tracking this one hour, particularly if schools decide to split it among other activity-based instruction (e.g., library, PE, STEM, etc.)? What evidence will schools be required to submit?

The MDE is currently working to develop documentation procedures that will allow elementary schools to provide evidence of computer science being taught for one hour per week. The MDE will also request that elementary computer science be added to the Mississippi Public School Accountability Standards under Standard 27.1, which addresses activity-based instruction. The MDE will begin the process of updating the Mississippi Public School Accountability Standards and will publish the changes to gather public comments (APA). When the MDE does monitor for activity-based instruction, the evidence should be documented in lesson plans for using standards and activities and/or master schedules. For the 22-23 school year, this documentation is not required but encouraged.

The law states 50% of elementary schools must provide one hour of computer science instruction. Does this mean 50% of students at one school must receive instruction or 50% of schools in the district must receive instruction? For the elementary school providing instruction, are all grade levels at an elementary school required to participate or can all grade levels be integrated over a couple of years?

The law states 50% of the schools in the district. For the 2022-2023 school year, districts may interpret this to best meet their needs. MDE has provided guidance around integration and considers this as a best practice strategy to help implement computer science at the elementary level. In its current form, the law states that by the 2024-2025 school year, ALL schools will be required to teach computer science for one hour per week.

Should students receive grades for elementary computer science instruction?

The MDE suggests that districts consider making computer science a graded course if the following are applicable:

- (1) computer science is taught as a stand-alone course,
- (2) the school gives grades for other activity-based instruction such as Physical Education or Library, and
- (3) school report cards can accommodate the addition.

If computer science is integrated within other subjects, a separate grade is **not** necessary. Clarification on grading will be ongoing as MDE works to update accountability standards to include elementary computer science.



I understand students will be working with robots. How many do you recommend purchasing and what could we use as a funding source?

The Mississippi College- and Career-Readiness Standards (MCCRS) for Computer Science are divided into five core concepts. **One** of the core concepts is Algorithms and Programming. An algorithm is a sequence of steps designed to accomplish a specific task. Algorithms are translated into programs, or code, to provide instructions for computing devices, including robots.

Programming, or coding, can be completed with the following equipment:

- Coding software, no robot required: Many free web-based coding software, such as Scratch, CS First, or Code.org, do not require robots for students to complete the programming activities.
- Coding software with a robot: Many robots, such as Sphero or Dot & Dash, can be programmed with free web-based software listed above.
- Robot only, no computer or software required: Some robots do not require a device or coding software to program the code necessary to control the robot. Examples of these robots are Ozobot Evo, Bee-Bot, Code & Go Robot Mouse, and Botley.
- Screen-free activities: There are also many screen-free activities that require basic supplies such as paper, pencils, markers, etc., that will reinforce programming skills, and do not require a device, coding software, or robots.

All of the options listed above will allow students to meet the computer science standards for algorithms and programming. The Administrator Implementation Guide will provide resources to help schools purchase appropriate computer science resources.

What is the course code for a stand-alone elementary computer science class?

- PK-3 Computer Science (Course Code 110103)
- Grade 4-6 Computer Science (Course Code 110104)

[MSIS Student Administrative Package \(SAP\) | The Mississippi Department of Education \(mdek12.org\)](#)

Are there curriculum guides for elementary computer science?

The MDE is currently developing several resources to assist elementary school teachers with integrating the computer science standards. The following resources will be available in August 2022:

- **Standards Deconstruction and Content Area Connections:** Used to understand the MCCRS for Computer Science and identify standards that connect and integrate with other content areas
- **DRAFT Integration Guides:** A series of 40 lesson plans to guide integrated computer science lessons
- Guidance on developmentally appropriate activities and best practices for computer science instruction for littles (Prek-2)

Will the integration guides be released before school starts?

The MDE is in the process of finalizing the integration guides as soon as possible. We want to ensure that the integration guides are high quality resources that are developmentally appropriate and fully aligned with the MCCRS for Computer Science.



Our 4th, 5th, and 6th are on the same campus (Middle School). Would our 6th graders fall into the elementary requirements or middle school requirements? Are sixth graders required to have a computer-based class as a stand-alone course?

The law does not identify which grades are considered elementary or secondary. To meet the needs of sixth grade students, districts have the flexibility to implement computer science instruction at the grade level of their choice based on their schools' grade level configurations, staffing availability, and scheduling considerations.

If schools choose to implement computer science at the sixth grade under the elementary requirement, the hour of computer science instruction may be delivered by any certified teacher or an assistant under the direction of a teacher. This instruction can be provided in a stand-alone classroom such as a computer lab rotation, or it may be integrated into other content areas. Schools also have the flexibility to create a schedule of instruction that "chunks" the time into longer increments that are spread out throughout the school year, but still meet the year-long requirement of 36 total hours of instruction which is equivalent to one hour per week over the course of the school year.

For Example:

Students are scheduled to attend computer science class for 6 hours per week every sixth week to total 36 hours over the course of the year.

If schools choose to implement computer science sixth grade under the middle school requirement, one computer science course must be offered at the middle school level. These courses may include Cyber Foundations I, Cyber Foundations II, and Computer Science and Engineering. These courses must be provided by a certified teacher with the appropriate computer science endorsement. Many districts are offering Cyber Foundations I in the 6th grade with no Carnegie unit and offering Cyber Foundations II in the 7th grade with a Carnegie unit. The latter meets the technology requirement needed to graduate. This model is acceptable according to the law.

MIDDLE & HIGH SCHOOL

For a 7-12 Computer Science license, is passing the Praxis a pathway for a supplemental computer science endorsement?

Currently, there is no Praxis assessment that will meet the requirements as a pathway to receive the supplemental endorsement. Please use the following link to check for supplemental endorsement pathways for computer science: <https://www.rcu.msstate.edu/Curriculum/CurriculumDownload.aspx?=#lt-565631-computer-science> (Scroll to the bottom left corner under REQUIREMENTS to access a downloadable Excel document.)



Is the Computer Science and Engineering the new STEM? If so, will our teachers with a 983 STEM endorsement be qualified to teach the CSE course.

It is considered the new STEM class. The MDE is retiring the STEM course and replacing it with the Computer Science and Engineering (CSE) course. The 983 endorsement qualifies teachers to teach the CSE course.

Are teachers who teach the AP courses required to have Computer Science endorsement?

Current licensure guidelines do not require teachers to have a computer science endorsement to teach AP computer science courses. However, the rigor of the content requires that the teacher have computer science experience and expertise to be successful teaching the course.

If a student earns Cyber Foundations Carnegie unit credit in junior high, are they required to have another computer science course in high school?

Students are required to earn one Carnegie unit credit of technology in order to graduate with a traditional diploma. Cyber Foundations I, Cyber Foundations II, Exploring Computer Science (ECS) and Computer Science and Engineering (CSE) all count for graduation; therefore, students may acquire the technology credit requirement before high school. The law does require that high schools offer a course in computer science.

Does the MDE have any additional scenarios on how junior high schools use Cyber Foundation I and II? Specifically, how credits are given?

Most schools are offering Cyber Foundations I in 7th Grade and Cyber Foundations II in 8th Grade. Recently, there have been a few districts that are offering Cyber Foundations I in 6th grade with no credit and Cyber Foundations II in 7th grade with a credit. A 7th grader can earn a Carnegie unit in any high school course as long as the curriculum/standards of the course are taught and there is a properly endorsed teacher. The common model is a three-course sequence with Cyber Foundations I in 6th grade, Cyber Foundations II in 7th grade, and Exploring Computer Science (ECS) or Computer Science and Engineering (CSE) in 8th grade.

Are there any funds (grants or scholarships) available for the training classes or testing required to obtain various CTE endorsements?

Currently there are appropriated funds to support teaching training and curriculum development through the Center for Cyber Education. Suggested sources of funding are federal funds or unused ESSER funds to use for computer science teacher professional development. Training for secondary has been offered for free due to one-time allocation of funds.

What devices can be used for secondary Computer Science courses, such as Cyber Foundations, Exploring Computer Science, etc.?

Chromebooks, desktop computers, Windows laptops, and MacBooks are all acceptable devices to be used for secondary computer science classes.



