

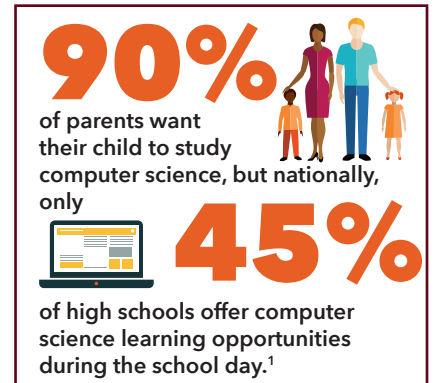
COMPUTER SCIENCE EDUCATION FOR MIDDLE AND HIGH SCHOOL TEACHERS

Introducing Michigan's new K-12 Computer Science Standards

Michigan's vision for computer science education is that all learners will develop foundational computer science skills to solve problems and be constructive citizens. In doing so, students will:

- Learn new approaches to problem-solving;
- Harness the power of computational thinking; and
- Use computer science tools to create technology.

Learn more about [computer science](#) and [why the need is urgent](#).



Provide All Students with Equal Access to Computer Science Learning

Computer science opportunities are not widely available for all students. Learners with the least access to Computer Science courses include minority, economically disadvantaged, and rural-area students. By adopting the new Computer Science Standards, the Michigan Department of Education is committing to provide equitable access to these opportunities regardless of where students live in the state or the school they attend.



Students who learn computer science in high school are

6 times

more likely to pursue it after high school and women are

10 times

more likely.

How This Looks in Middle and High School

Middle school students may be exposed to computer science in a computer class or during activities integrated into art, English language arts, math, science, social studies, and related curriculum. Through integration, middle school and high school students have exposure to both traditional subjects and computational thinking. In high school, computer science courses are typically stand-alone, however, computer science also can be integrated across the content areas as well. Opportunities at the high school level also include career and technical education courses; advanced placement; and specialized computer science classes, such as cybersecurity, computer gaming and design, mobile application design, and more.

Qualifications to Teach Computer Science

With the elimination of the computer science teaching endorsement, any teacher who is certified in high school can teach computer science. Educators who hold a computer science endorsement, have gone through specialized professional learning, or who teach other STEM-related courses may be best positioned to teach computer science at the high school level. There is a wealth of professional learning resources available so teachers with no prior computer science experience can teach and integrate computer science and computational thinking across subjects and into lesson plans.

¹ Source: Gallup research study (commissioned by Google) "Trends in the State of Computer Science in U.S. K-12 Schools 2016," retrieved from <http://services.google.com/fh/files/misc/trends-in-the-state-of-computer-science-report.pdf>.

² "Computer Science: the Impact of K-12 on University Enrollment." 18 Apr. 2016, retrieved from <https://blog.code.org/post/143007230537/computer-science-the-impact-of-k-12-on-university>.