

Support K-12 Computer Science Education in Illinois

Computer science drives job growth and innovation throughout our economy and society. Computing occupations are the **number 1 source of all new wages in the U.S.** and make up over half of all projected new jobs in STEM fields, making Computer Science one of the most in-demand college degrees. And computing is used all around us and in virtually every field. It's foundational knowledge that all students need. But computer science is marginalized throughout education. Only 53% of U.S. high schools teach any computer science courses and only 4% of bachelor's degrees are in Computer Science. We need to improve access for all students, including groups who have traditionally been underrepresented.

93% of parents want their child's school to teach computer science, but only **53% of high schools** offer it.

More than **70% of superintendents and principals** say offering computer science is just as important as offering subjects like English, math, history, and science.

50% of Americans rank computer science as one of the two most important subjects of study after reading and writing.

Students who learn computer science in high school are **six times** more likely to major in it, and **women are ten times more likely**.

Black students are **more interested** in CS and **more confident** in their abilities than white students but are less likely to enroll in a class.

In Illinois, there are currently 14,746 open computing jobs with an average salary of \$107,579.

Yet, there were only 2,940 graduates in computer science in 2020 and only 44% of all public high schools teach a foundational computer science course.

Computer science in Illinois

- Only **8,378 exams were taken in AP Computer Science by high school students in Illinois** in 2020 (3,537 took AP CS A and 4,841 took AP CSP).
- Only 31% were taken by female students (23% for AP CS A and 37% for AP CSP); only 1,461 exams were taken by Hispanic/Latino/Latina students (394 took AP CS A and 1,067 took AP CSP); only 369 exams were taken by Black/African American students (78 took AP CS A and 291 took AP CSP); only 19 exams were taken by Native American/Alaskan students (3 took AP CS A and 16 took AP CSP); only 4 exams were taken by Native Hawaiian/Pacific Islander students (2 took AP CS A and 2 took AP CSP).
- Only **241 schools** in IL (36% of IL schools with AP programs) offered an AP Computer Science course in 2019-2020 (24% offered AP CS A and 28% offered AP CSP), which is 34 more than the previous year.
- Teacher preparation programs in Illinois did not graduate a single new teacher prepared to teach computer science in 2018.
- According to a representative survey from Google/Gallup, school administrators in IL support expanding computer science education opportunities: 65% of principals surveyed think CS is just as or more important than required core classes.

What can you do to support K-12 CS education in Illinois?

- Send a letter to your school/district asking them to expand computer science offerings at every grade level: [www.code.org/promote/letter](https://code.org/promote/letter)
- Find out if your school teaches computer science or submit information about your school's offerings at www.code.org/yourschool.
- Visit www.code.org/educate/3rdparty to find out about courses and curriculum from a variety of providers, including Code.org.

Code.org's impact in Illinois

- In Illinois, Code.org’s curriculum is used in
 - 19% of elementary schools
 - 21% of middle schools
 - 18% of high schools
- There are 26,563 teacher accounts and 1,479,557 student accounts on Code.org in Illinois.
- Of students in Illinois using Code.org curriculum last school year,
 - 45% attend high needs schools
 - 17% are in rural schools
 - 45% are female students
 - 21% are Black/African American students
 - 24% are Hispanic/Latino/Latina students
 - 0% are Native American/Alaskan students
 - 0% are Native Hawaiian/Pacific Islander students
 - 33% are white students
 - 8% are Asian students
 - 4% are students who identify as two or more races
- Code.org, its regional partner(s) Learning Technology Center, and 17 facilitators have provided professional learning in Illinois for
 - 2,024 teachers in CS Fundamentals (K-5)
 - 370 teachers in Exploring Computer Science or Computer Science Discoveries
 - 205 teachers in Computer Science Principles

What can your state do to improve computer science education?

States and local school districts need to adopt a broad policy framework to provide all students with access to computer science. The following nine recommendations are a menu of best practices that states can choose from to support and expand computer science. Not all states will be in a position to adopt all of the policies. Read more about these 9 policy ideas at https://code.org/files/Making_CS_Fundamental.pdf and see our rubric for describing state policies at <http://bit.ly/9policiesrubric>.

State Plan - Illinois **has not** yet created a state plan for K-12 computer science. A plan that articulates the goals for computer science, strategies for accomplishing the goals, and timelines for carrying out the strategies is important for making computer science a fundamental part of a state’s education system.

K-12 Standards - Illinois adopted K–12 computer science standards based on the CSTA standards in 2022. Standards within each grade band address concepts of equity, such as bias, accessible technology, and inclusivity.

Funding - Illinois **does not yet** provide dedicated funding for rigorous computer science professional development and course support. Although funds may be available via broader programs, the state can strengthen its computer science programs by creating specific opportunities to bring computer science to school districts, such as matching fund programs.

Certification - In Illinois, teachers with existing licensure can obtain a 5–8, 6–8, or 9–12 endorsement through academic coursework, including computer science teaching methods and passing the state content exam.

Pre-Service Programs - Illinois **has not yet** established programs at institutions of higher education to offer computer science to preservice teachers. The computer science teacher shortage can be addressed by exposing more preservice teachers to computer science during their required coursework or by creating specific pathways for computer science teachers.

Dedicated State Position - The Illinois State Board of Education has a Computer Science Principal Consultant.

Require High Schools to Offer - HB 2170 (2021) required each school district that maintains any of the grades 9 through 12 provide an opportunity for every high school student to take at least one computer science course by the 2023–2024 school year.

Count Towards Graduation - In Illinois, computer science can count as a mathematics credit for graduation.

Higher Ed Admission - Computer science can count as a mathematics credit required for admission at institutions of higher education, which aligns with Illinois’s high school graduation policy.

□ **Graduation Requirement** - Illinois **does not yet** require students to take computer science to earn a high school diploma. Graduation requirements ensure that all students get exposure to computer science.

Follow us!

Join our efforts to give every student in every school the opportunity to learn computer science. Learn more at code.org, or follow us on [Facebook](#) and [Twitter](#).

Launched in 2013, Code.org® is a nonprofit dedicated to expanding access to computer science, and increasing participation by women and underrepresented youth. Our vision is that every student in every school should have the opportunity to learn computer science.

Who can you connect with locally to talk about K-12 CS education policy?

- You can reach Code.org's policy contact for your state, Codeye Woody, at codeye@code.org.

Data is from the Conference Board for job demand, the Bureau of Labor Statistics for state salary and national job projections data, the College Board for AP exam data, the National Center for Education Statistics for university graduate data, the Gallup and Google research study Education Trends in the State of Computer Science in U.S. K-12 Schools for parent demand, the 2018 Computer Science Access Report for schools that offer computer science, and Code.org for its own courses, professional learning programs, and participation data.