Support K-12 Computer Science Education in Kansas

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 57.5% 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.

Yet, there were only 590 graduates in computer science in 2020 and only 36% of all public high schools teach a foundational computer science course.

Computer science in Kansas

- Only **297 exams were taken in AP Computer Science by high school students in** Kansas in 2020 (147 took AP CS A and 150 took AP CSP).
- Only 16% were taken by female students (16% for AP CS A and 16% for AP CSP); only 31 exams were taken by Hispanic/Latino/Latina students (10 took AP CS A and 21 took AP CSP); only 5 exams were taken by Black/African American students (2 took AP CS A and 3 took AP CSP); only 1 exam was taken by Native American/Alaskan students (1 took AP CS A and 0 took AP CSP); no exams were taken by Native Hawaiian/Pacific Islander students.
- Only **35 schools** in KS (24% of KS schools with AP programs) offered an AP Computer Science course in 2019-2020 (18% offered AP CS A and 16% offered AP CSP), which is 4 more than the previous year. There are fewer AP exams taken in computer science than in any other STEM subject area.
- Teacher preparation programs in Kansas 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 KS support expanding computer science education opportunities: 62% 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 Kansas?

- Send a letter to your school/district asking them to expand computer science offerings at every grade level: %a{href:"https://code.org/promote/letter"} www.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 Kansas

- In Kansas, Code.org’s curriculum is used in
    - 23% of elementary schools
    - 26% of middle schools
    - 10% of high schools
- There are 7,194 teacher accounts and 331,735 student accounts on Code.org in Kansas.
- Of students in Kansas using Code.org curriculum last school year,
    - 49% attend high needs schools
    - 49% are in rural schools
    - 45% are female students
    - 8% are Black/African American students
    - 13% are Hispanic/Latino/Latina students
    - 1% are Native American/Alaskan students
    - 0% are Native Hawaiian/Pacific Islander students
    - 54% are white students
    - 4% are Asian students
    - 6% are students who identify as two or more races
- Code.org, its regional partner(s) Code.org's Kansas Regional Partner, and 3 facilitators have provided professional learning in Kansas for
    - 558 teachers in CS Fundamentals (K-5)
    - 57 teachers in Exploring Computer Science or Computer Science Discoveries
    - 23 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 ten 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 10 policy ideas at **https://advocacy.code.org/2023_making_cs_foundational.pdf** and see our rubric for describing state policies at **http://bit.ly/9policiesrubric**.

 State Plan - Kansas **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 - Kansas adopted preK–12 computer science standards in 2019. A primary goal of the standards is to increase the availability of rigorous computer science for all students, especially those who are members of underrepresented groups.

 Funding - SB 113 (FY 2024) and HB 2567 (FY 2023) allocated $1M to provide grants to high-quality professional learning providers to develop and implement computer science teacher professional development programs.

 Certification - The Kansas State Department of Education has developed proposed licensure standards for preK-12 computer science educators.

 Pre-Service Programs - HB 2466 (2022) established the computer science educator program to promote the advancement of computer science licensed and preservice teacher preparation in Kansas. The state board of regents may award scholarships up to $1,000 to licensed and preservice teachers who are enrolled in a course of instruction offered by a postsecondary educational institution for additional postsecondary credit or leading to licensure as a teacher, and have completed one course in computer science. Scholarships prioritize applicants who are from underrepresented socioeconomic demographic groups; or agree to teach computer science in rural schools and schools with higher percentages of students from underrepresented socioeconomic demographic groups.

 Dedicated State Position - The Kansas Department of Education has a Computer Science Education Program Consultant.

 Require High Schools to Offer - HB 2466 (2022) required all secondary schools to offer at least one computer science course beginning in the 2023-24 school year or requires a school district to submit a plan to the state board of education describing how the district intends to offer a computer science course and the school year that course will first be offered.

 Count Towards Graduation - In Kansas, locally-approved computer science courses can count as a credit for graduation, but it is a district decision.

 IHE Admission - Kansas **does not yet** allow computer science to count as a core admission requirement at institutions of higher education. Admission policies that do not include rigorous computer science courses as meeting a core entrance requirement, such as in mathematics or science, discourage

students from taking such courses in secondary education. State leaders can work with institutions of higher education to ensure credit and articulation policies align with secondary school graduation requirements.

 Graduation Requirement - Kansas **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, Hannah Weissman, at hannah.weissman@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.