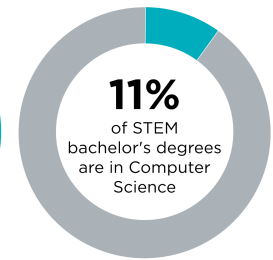
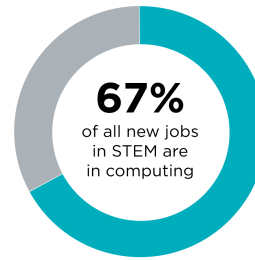


Support K-12 Computer Science Education in Iowa

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 45% of U.S. high schools teach any computer science courses and only 11% 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 45% of high schools teach it.

75% of Americans believe computer science is cool in a way it wasn't 10 years ago.

67% of parents and 56% of teachers believe students should be required to learn computer science.

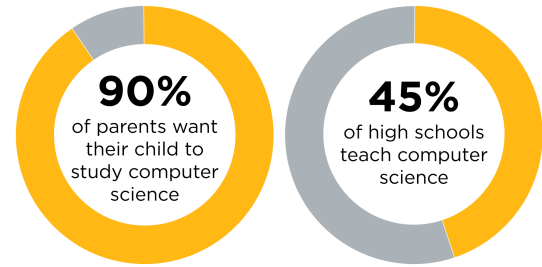
50% of Americans rank computer science as one of the two most important subjects of study after reading and writing.

Students who learn computer science in high school are 6 times more likely to major in it, and women are 10 times more likely.

Computer science in Iowa

- Iowa currently has **1,887 open computing jobs** (2.8 times the average demand rate in Iowa).
- The average salary for a computing occupation in IA is **\$83,048**, which is significantly higher than the average salary in the state (\$46,150). The existing open jobs alone represent a **\$156,711,128 opportunity** in terms of annual salaries.
- Iowa had only **679 bachelor's degrees in Computer Science** in 2018; only **18%** were female.
- In Iowa, only **66% of all public high schools teach a foundational computer science course.**
- Only **583 exams were taken in AP Computer Science by high school students in Iowa** in 2019 (256 took AP CS A and 327 took AP CSP).
- Only 23% were female (20% for AP CS A and 27% for AP CSP); only 52 exams were taken by Hispanic/Latino/Latina students (15 took AP CS A and 37 took AP CSP); only 28 exams were taken by Black/African American students (5 took AP CS A and 23 took AP CSP); only 2 exams were taken by Native American/Alaskan students (0 took AP CS A and 2 took AP CSP); no exams were taken by Native Hawaiian/Pacific Islander students.
- Only **53 schools** in IA (24% of IA schools with AP programs) offered an AP Computer Science course in 2018-2019 (10% offered AP CS A and 19% offered AP CSP), which is 12 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 Iowa only graduated **1 new teacher** prepared to teach computer science in 2018.
- According to a representative survey from Google/Gallup, school administrators in IA support expanding computer science education opportunities: 67% of principals surveyed think CS is just as or more important than required core classes. And their biggest barrier to offering computer science is the lack of funds for hiring and training teachers.

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



- Send a letter:
 - To your school/district asking them to expand computer science offerings at every grade level: www.code.org/promote/letter
 - To your elected officials asking them to support computer science education policy in Iowa: www.votervoice.net/Code/campaigns/58463/respond
- 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.

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, Sean Roberts, at sean@code.org.

Code.org's impact in Iowa

- In Iowa, Code.org's curriculum is used in
 - 34% of elementary schools
 - 36% of middle schools
 - 28% of high schools
- There are 8,209 teacher accounts and 411,188 student accounts on Code.org in Iowa.
- Of students in Iowa using Code.org curriculum last school year,
 - 30% attend high needs schools
 - 55% are in rural schools
 - 46% are female students
 - 25% are students from marginalized racial and ethnic groups underrepresented in computer science (Black/African American, Hispanic/Latino/Latina, Native American/Alaskan, or Native Hawaiian/Pacific Islander)
- Code.org, its regional partner(s) New Bohemian Innovation Collaborative (NewBoCo), and 14 facilitators have provided professional learning in Iowa for
 - 2,004 teachers in CS Fundamentals (K-5)
 - 106 teachers in Exploring Computer Science or Computer Science Discoveries
 - 89 teachers in Computer Science Principles

“Computer Science is a liberal art: it’s something that everybody should be exposed to and everyone should have a mastery of to some extent.”

— Steve Jobs

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 - Iowa HF 2629 (2020) required the development of a statewide K–12 computer science plan by July 1, 2022.

K-12 Standards - Iowa adopted the CSTA K–12 Computer Science Standards in 2018. Standards within each grade band address concepts of equity, such as bias, accessible technology, and inclusivity.

Funding - HF 2643 (FY 2021), HF 758 (FY 2020) and HF 642 (FY 2019) allocated \$500K annually for computer science professional development. Another \$500K was added to the fund in FY 2019. The grant rubric prioritizes targeted efforts to increase computer science participation by underrepresented groups (including female students, economically disadvantaged students, and students who are Black/African American, Hispanic/Latino/Latina, American Indian/Alaskan, or Native Hawaiian/Pacific Islander).

Certification - In Iowa, teachers with existing licensure can obtain a 5–12 or K–8 endorsement by completing a state-approved program or academic coursework in both content and methods. The state waived these requirements in 2018 for teachers who could demonstrate content knowledge and successful teaching experience.

Pre-Service Programs - Iowa 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 Iowa Department of Education has a Computer Science Education Program.

Require High Schools to Offer - HF 2629 (2020) required all high schools to offer computer science by July 1, 2022, and required all elementary and middle schools to offer computer science in at least one grade level by July 1, 2023.

Count Towards Graduation - Iowa passed a permissive and encouraging policy to allow computer science to count as a mathematics credit for graduation, but it is a district decision.

IHE Admission - Computer science can count towards a core subject area credit required for admission at institutions of higher education in Iowa.

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.

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.