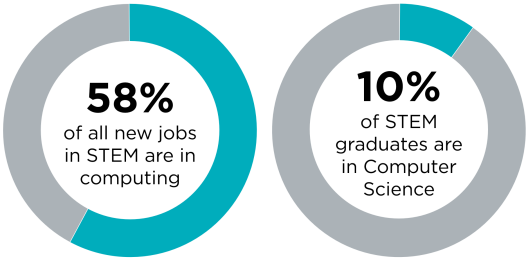
Support K-12 Computer Science Education in Wyoming

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 35% of U.S. high schools teach any computer science courses and only 10% of STEM graduates study it. 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 35% of high schools teach it.

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

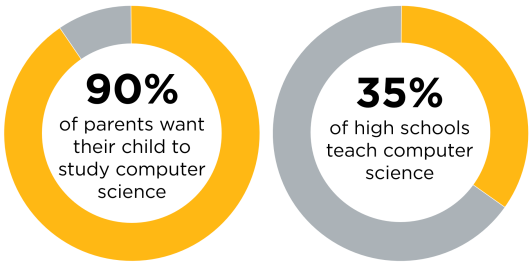
75% of Americans believe computer science is cool in a way it wasn't 10 years ago.

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

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

Computer science in Wyoming

- Wyoming currently has **245 open computing jobs** (2.8 times the average demand rate in Wyoming).
- The average salary for a computing occupation in WY is **$63,223,** which is significantly higher than the average salary in the state ($46,840). The existing open jobs alone represent a **$15,489,635 opportunity** in terms of annual salaries.
- Wyoming had only **42 computer science graduates** in 2017; only **7**% were female.
- Only **38 exams were taken in AP Computer Science by high school students in** Wyoming in 2018 (11 took AP CS A and 27 took AP CSP).
- Only 26% were female (9% for AP CS A and 33% for AP CSP); only 2 exams were taken by Hispanic or Latino students (0 took AP CS A and 2 took AP CSP); only 1 exam was taken by Black students (0 took AP CS A and 1 took AP CSP); no exams were taken by American Indian or Alaska Native students; no exams were taken by Native Hawaiian or Pacific Islander students.
- Only **8 schools** in WY (21% of WY schools with AP programs) offered an AP Computer Science course in 2017-2018 (13% offered AP CS A and 13% offered AP CSP), which is 3 more than the previous year. There are fewer AP exams taken in computer science than in any other STEM subject area.
- Universities in Wyoming did not graduate a single new teacher prepared to teach computer science in 2016.



What can you do to improve K-12 CS education?

1. Call on your school to expand computer science offerings at every grade level.
2. Ask your local school district to allow computer science courses to satisfy a core math or science requirement.
3. Visit **www.code.org/educate/3rdparty** to find out about courses and curriculum from a variety of third parties, including Code.org.
4. Visit **www.code.org/promote/WY** to learn more about supporting computer science in your state.
5. Sign the petition at **www.change.org/computerscience** to join 100,000 Americans asking Congress to support computer science.

Code.org's Impact in Wyoming

- In Wyoming, Code.org's curriculum is used in
  - 31% of elementary schools
  - 26% of middle schools
  - 15% of high schools
- There are 1,800 teacher accounts and 67,752 student accounts on Code.org in Wyoming.
- Of students in Wyoming using Code.org curriculum last school year,
  - 25% attend high needs schools
  - 62% are in rural schools
  - 47% are female students
  - 25% are underrepresented minority students (Black/African American, Hispanic/Latino, American Indian, or Hawaiian)
- Code.org, its regional partner(s) Technology & Innovation in Education, and 6 facilitators have provided professional learning in Wyoming for
  - 757 teachers in CS Fundamentals (K-5)
  - 32 teachers in Exploring Computer Science or Computer Science Discoveries
  - 18 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**.

☑ Wyoming has created a state plan for K-12 computer science.

☐ Wyoming is in the process of developing K-12 computer science standards.

☑ Wyoming encourages the use of state funds for computer science or computer science professional development. Wyoming has an opportunity to expand computer science by designating state funds for computer science.

☑ Wyoming has clear certification pathways for computer science teachers.

☐ Wyoming **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.

☑ Wyoming has a dedicated computer science position in the state education agency.

☑ Wyoming requires that all secondary schools offer computer science.

☑ Wyoming allows computer science to count for a core graduation requirement. Find out how Wyoming allows computer science to count towards graduation at **http://bit.ly/9policies**.

☑ Wyoming allows computer science to count as a core admission requirement at institutions of higher education.

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 students of color. 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.