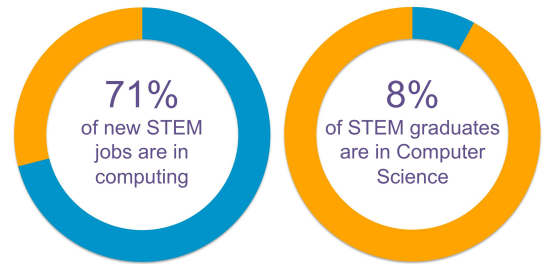


# Support K-12 Computer Science Education in Arizona

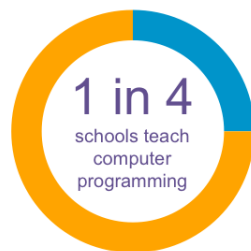
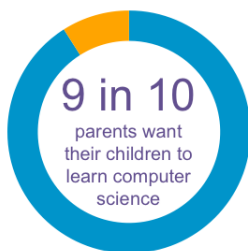
Computer science drives job growth and innovation throughout our economy and society. Computing occupations make up two-thirds of all projected new jobs in STEM fields, making Computer Science one of the most in-demand college degrees. And computing is used all around us and in virtually every field. It's foundational knowledge that all students need. But computer science is marginalized throughout education. 75 percent of U.S. schools don't even offer computer science and only 8% of STEM graduates study it. We need to improve access for all students, including groups who have traditionally been underrepresented.



**9 in 10 parents want their students to learn computer science, but only 1 in 4 schools teach it.**

## Computer science in Arizona

- Arizona currently has **10,541 open computing jobs** (3.1 times the average demand rate in Arizona).
- The average salary for a computing occupation in AZ is **\$82,721**, which is significantly higher than the average salary in the state (\$44,580).
- Arizona had only **484 computer science graduates** in 2014; only **15%** were female.
- Only **412 high school students in** Arizona took the AP Computer Science exam in 2015; only 23% were female; only 54 were Hispanic; only 12 were black.
- Only **43 schools** in AZ (14% of AZ schools with AP programs) offered the AP Computer Science course in 2014-2015. There are fewer AP exams taken in computer science than in any other STEM subject area.



## 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 <https://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/AZ](http://www.code.org/promote/AZ) to learn more about supporting computer science in your state.

## Code.org's Impact in Arizona

There are 2,759 teacher accounts and 55,755 student accounts in Code Studio in Arizona.

- Code.org has partnered with Paradise Valley Unified School District and Phoenix Union High School District.
- 3 Code.org K-12 facilitators in Arizona have provided professional learning for **900 elementary teachers**.

**“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 eight 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, and no state has accomplished all 8 yet. Read more about these 8 policy ideas at

[https://code.org/files/Making\\_CS\\_Fundamental.pdf](https://code.org/files/Making_CS_Fundamental.pdf).

- Arizona **does not yet** have rigorous computer science standards publicly available across K-12. Computer science has often been confused with broader technology education in schools. States could strengthen their computer science programs by publicly adopting discrete standards for computer science focused on both the creation and use of software and computing technologies at all levels of K-12 education. The Computer Science Teachers Association has model K-12 CS standards.
- Arizona **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.
- Arizona has clear certification pathways for computer science teachers.
- Arizona **currently has no** incentives for institutions of higher education to offer computer science to pre-service teachers. The computer science teacher shortage can be addressed by exposing more pre-service teachers to computer science during their required coursework or by creating specific pathways for computer science teachers.
- Arizona **does not yet** have dedicated computer science positions in state and local education authorities. Creating a statewide computer science leadership position within the state education authority can help expand state-level implementation of computer science education initiatives. Similar positions at the local level could support districts’ expansion of course offerings and professional development.
- Arizona **does not yet** require that all secondary schools offer computer science. The state can support the expansion of computer science courses by adopting policies that require schools to offer a computer science course based on rigorous standards, with appropriate implementation timelines and allowing for remote and/or in-person courses.
- Arizona allows computer science to count for a core graduation requirement. Find out how Arizona allows computer science to count towards graduation at <http://bit.ly/1Is6YXS>.

Arizona 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](https://code.org), or follow us on [Facebook](#) and [Twitter](#).

Launched in 2013, Code.org® is a non-profit 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 research study Searching for Computer Science: Access and Barriers in K-12 Education for schools that offer computer science and parent demand, and Code.org for its own courses, professional learning programs, and participation data.