Support K-12 Computer Science Education in Arkansas

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 STEM bachelor’s degrees are in Computer Science. We need to improve access for all students, including groups who have traditionally been underrepresented.

### Computer science in Arkansas

- Arkansas currently has **1,836 open computing jobs** (4.0 times the average demand rate in Arkansas).
- The average salary for a computing occupation in AR is **$72,662**, which is significantly higher than the average salary in the state ($41,540). The existing open jobs alone represent a **$133,406,633 opportunity** in terms of annual salaries.
- Arkansas had only **410 STEM bachelor’s degrees in Computer Science** in 2018; only **15%** were female.
- In Arkansas, only **78% of all public high schools teach computer science**.
- Only **1,246 exams were taken in AP Computer Science by high school students in Arkansas** in 2019 (395 took AP CS A and 851 took AP CSP).
- Only 28% were female (20% for AP CS A and 32% for AP CSP); only 138 exams were taken by Hispanic or Latino students (51 took AP CS A and 87 took AP CSP); only 126 exams were taken by Black students (28 took AP CS A and 98 took AP CSP); only 6 exams were taken by American Indian or Alaska Native students (1 took AP CS A and 5 took AP CSP); only 1 exam was taken by Native Hawaiian or Pacific Islander students (1 took AP CS A and 0 took AP CSP).
- Only **59 schools** in AR (19% of AR schools with AP programs) offered an AP Computer Science course in 2017-2018 (10% offered AP CS A and 15% offered AP CSP), which is 9 more than the previous year.
- Universities in Arkansas did not graduate a single new teacher prepared to teach computer science in 2017.
- According to a representative survey from Google/Gallup, school administrators in AR support expanding computer science education opportunities: 73% 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 Arkansas?

- Nominate a teacher for professional learning: [www.code.org/nominate](http://www.code.org/nominate)
- Send a letter:
  - To your school/district asking them to expand computer science offerings at every grade level: [www.code.org/promote/letter](http://www.code.org/promote/letter)
  - To your elected officials asking them to support computer science education policy in Arkansas: [www.votervoice.net/Code/campaigns/58463/respond](http://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](http://www.code.org/yourschool).
- Visit [www.code.org/educate/3rdparty](http://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, Katie Hendrickson, at katie@code.org.
- The Expanding Computing Education Pathways (ECEP) Alliance (www.ecepalliance.org), an NSF funded Broadening Participation in Computing Alliance, seeks to increase the number and diversity of students in computing and computing-intensive degrees by promoting state-level computer science education reform. ECEP supports 22 states and the territory of Puerto Rico to develop effective and replicable interventions to broaden participation in computing and to create state-level infrastructure to foster equitable computing education policies. You can reach your ECEP point of contact Anthony Owen at anthony.owen@arkansas.gov and see your state ECEP project at [http://www.arkansased.gov/divisions/special-projects/arkansas-computer-science-initiative](http://www.arkansased.gov/divisions/special-projects/arkansas-computer-science-initiative).

Code.org's impact in Arkansas

- In Arkansas, Code.org’s curriculum is used in
  - 37% of elementary schools
  - 32% of middle schools
  - 27% of high schools
- There are 7,550 teacher accounts and 398,747 student accounts on Code.org in Arkansas.
- Of students in Arkansas using Code.org curriculum last school year,
  - 74% attend high needs schools
  - 56% are in rural schools
  - 48% are female students
  - 41% are underrepresented minority students (Black/African American, Hispanic/Latino, American Indian, or Hawaiian)
- Code.org and 2 facilitators have provided professional learning in Arkansas for
  - 2,309 teachers in CS Fundamentals (K-5)
  - 2 teachers in Exploring Computer Science or Computer Science Discoveries
  - 1 teacher 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.

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

Arkansas has established K-12 computer science standards.

Arkansas has allocated funding for rigorous computer science professional development and course support.

Arkansas has clear certification pathways for computer science teachers.

Arkansas has established programs at institutions of higher education to offer computer science to preservice teachers.

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

Arkansas requires that all secondary schools offer computer science.

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

Arkansas 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.