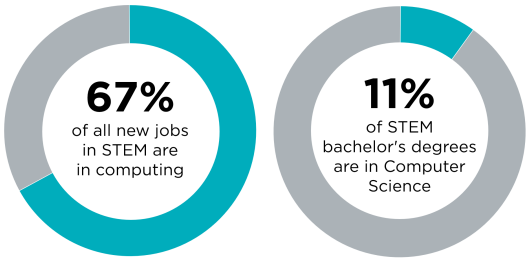
Support K-12 Computer Science Education in Nevada

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.

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.

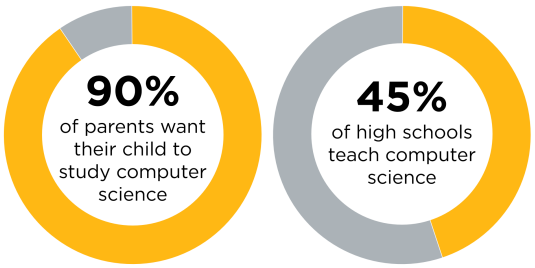
Students who learn computer science in high school are 6 times more likely to major in it, and women are 10 times more likely.

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

Computer science in Nevada

- Nevada currently has **2,504 open computing jobs** (3.6 times the average demand rate in Nevada).
- The average salary for a computing occupation in NV is **$83,542,** which is significantly higher than the average salary in the state ($46,170). The existing open jobs alone represent a **$209,189,274 opportunity** in terms of annual salaries.
- Nevada had only **199 bachelor's degrees in Computer Science** in 2018; only **20**% were female.
- In Nevada, only **77% of all public high schools teach a foundational computer science course.**
- Only **2,215 exams were taken in AP Computer Science by high school students in** Nevada in 2019 (174 took AP CS A and 2,041 took AP CSP).
- Only 37% were female (26% for AP CS A and 38% for AP CSP); only 869 exams were taken by Hispanic/Latino/Latina students (33 took AP CS A and 836 took AP CSP); only 64 exams were taken by Black/African American students (6 took AP CS A and 58 took AP CSP); only 7 exams were taken by Native American/Alaskan students (0 took AP CS A and 7 took AP CSP); only 8 exams were taken by Native Hawaiian/Pacific Islander students (0 took AP CS A and 8 took AP CSP).
- Only **62 schools** in NV (50% of NV schools with AP programs) offered an AP Computer Science course in 2018-2019 (16% offered AP CS A and 45% offered AP CSP), which is 31 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 Nevada did not graduate a single new teacher prepared to teach computer science in 2018.

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



- 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 Nevada: **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, Alexis Harrigan, at alexis@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 Cindi Chang at cchang@doe.nv.gov and see your state ECEP project at **https://www.stemhub.nv.gov/csfornv**.

Code.org's impact in Nevada

- In Nevada, Code.org's curriculum is used in
  - 42% of elementary schools
  - 33% of middle schools
  - 36% of high schools
- There are 9,912 teacher accounts and 394,518 student accounts on Code.org in Nevada.
- Of students in Nevada using Code.org curriculum last school year,
  - 64% attend high needs schools
  - 17% are in rural schools
  - 45% are female students
  - 61% 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) Southern Nevada Regional Professional Development Program, and 20 facilitators have provided professional learning in Nevada for
  - 3,867 teachers in CS Fundamentals (K-5)
  - 129 teachers in Exploring Computer Science or Computer Science Discoveries
  - 130 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 - The Nevada Department of Education developed the Computer Science Strategic Plan in 2018. The plan includes a section dedicated to diversity and strategies to build toward more equitable outcomes.

K-12 Standards - Nevada adopted K–12 computer science standards in 2018. Standards within each grade band address concepts of equity, such as bias, accessible technology, and inclusivity.

Funding - SB 313 (FY 2020 and 2021) allocated $700K and $933K, and SB 200 (FY 2018 and 2019) allocated $1M and $1.4M to expand computer science education.

Certification - In Nevada, teachers with existing licensure can obtain a secondary endorsement in advanced computer science through academic coursework or passing the Praxis CS exam. Teachers can also obtain a secondary or middle school/junior high school endorsement in computer technology-based applications and computational thinking through academic coursework. Funding is available to offset the cost of certification.

Pre-Service Programs - SB 313 (2019) required training all preservice teachers in computer science and computer literacy. The bill also allowed the Nevada Board of Regents to apply for a grant from the computer science education fund to develop curriculum and standards for preservice computer science educators.

Dedicated State Position - The Nevada Department of Education has a Computer Science Education Programs Professional.

Require High Schools to Offer - SB 200 (2018) required all high schools to make a computer science course available to all students by July 1, 2022, and required all students to receive instruction in computer education before 6th grade. Schools must make efforts to increase enrollment of female students, students with disabilities, and students from underrepresented racial and ethnic groups. The state publishes a biennial report which includes enrollment demographics on gender, race, and students with disabilities.

Count Towards Graduation - In Nevada, all students must earn one half-credit in computer education and technology in a course with half of the instructional time dedicated to computer science and computational thinking. Allowable courses include AP, CTE, or courses offered by a community college or university. A student who takes a computer education and technology course in middle school is not required to fulfill the half-credit in high school.

IHE Admission - A computer science course can count as a mathematics or science credit required for admission at institutions of higher education, which aligns with Nevada's high school graduation policy.

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.