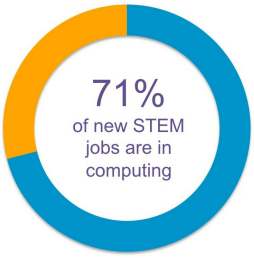
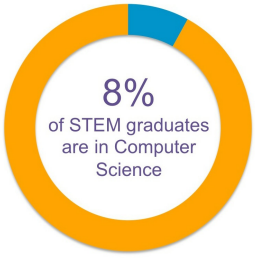
Support K-12 Computer Science Education in Rhode Island

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 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. Fewer than half of U.S. schools offer any computer science courses and only 8% 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 40% of schools teach it.

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

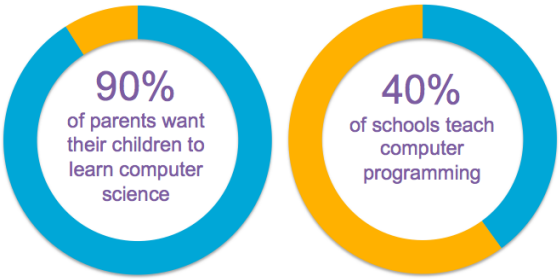
75% of Americans believe computer science is cool in a way it wasn't 10 years ago.

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 Rhode Island

- Rhode Island currently has **1,510 open computing jobs** (3.1 times the average demand rate in Rhode Island).
- The average salary for a computing occupation in RI is **$86,015,** which is significantly higher than the average salary in the state ($50,780). The existing open jobs alone represent a **$129,882,650 opportunity** in terms of annual salaries.
- Rhode Island had only **311 computer science graduates** in 2014; only **19**% were female.
- Only **94 high school students in** Rhode Island took the AP Computer Science exam in 2016; only 13% were female; only 7 students were Hispanic or Latino; no students were Black; no students were Native American or Alaska Native; no students were Native Hawaiian or Pacific Islander.
- Only **14 schools** in RI (20% of RI schools with AP programs) offered the AP Computer Science course in 2015-2016. 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 **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/RI** 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 Rhode Island

There are 1,430 teacher accounts and 31,428 student accounts in Code Studio in Rhode Island.

Code.org and 4 facilitators have provided professional learning for 693 teachers in CS Fundamentals (K-5) in Rhode Island.

Code.org has a partnership with the State of Rhode Island to help spread K-5 computer science to its schools.

> **“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 the federal government do to support computer science in grades K-12?

Access to computer science courses is a bipartisan issue that can be addressed without adding to the Federal budget. Tell your representatives in Washington, D.C. that you support funding to expand access to this foundational 21st-century subject in your community that will America remain secure and globally competitive. Over 100,000 Americans, CEOs of the largest companies in every major industry, 29 governors, and major K-12 education leaders have all joined forces to call on Congress to support this idea. You can see their open letter (and add your name in support) at **www.change.org/computerscience**.

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**.

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

☐ Rhode Island **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. The state could strengthen its 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. These standards can be guided by the concepts, practices, and recommendations in the K-12 Computer Science Framework, found at **http://www.k12cs.org**.

☑ Rhode Island has allocated funding for rigorous computer science professional development and course support.

☐ Rhode Island **does not yet** have clear certification pathways for computer science teachers. The expansion of K-12 computer science education is hampered by the lack of qualified computer science teachers. We can grow their ranks by creating clear, navigable, and rewarding professional paths for computer science teachers.

☐ Rhode Island **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.

☐ Rhode Island **does not yet** have dedicated computer science positions in state or 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.

☑ Rhode Island is is working towards bringing computer science to all secondary schools.

☑ Rhode Island allows computer science to count for a core graduation requirement. Find out how Rhode Island allows computer science to count towards graduation at **http://bit.ly/1Is6YXS**.

☑ Rhode Island 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 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 and Google research study Education Trends in the State of Computer Science in U.S. K-12 Schools for schools that offer computer science and parent demand, and Code.org for its own courses, professional learning programs, and participation data.