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.

Support K-12 Computer Science Education in North Dakota

Computer science in North Dakota

- North Dakota currently has 557 open computing jobs (2.9 times the average demand rate in North Dakota).
- The average salary for a computing occupation in ND is $73,102, which is significantly higher than the average salary in the state ($49,620). The existing open jobs alone represent a $40,717,718 opportunity in terms of annual salaries.
- North Dakota had only 152 bachelor's degrees in Computer Science in 2018; only 9% were female.
- In North Dakota, only 41% of all public high schools teach a foundational computer science course.
- Only 84 exams were taken in AP Computer Science by high school students in North Dakota in 2019 (34 took AP CS A and 50 took AP CSP).
- Only 19% were female (12% for AP CS A and 24% for AP CSP); only 6 exams were taken by Hispanic or Latino students (1 took AP CS A and 5 took AP CSP); only 3 exams were taken by Black students (1 took AP CS A and 2 took AP CSP); only 1 exam was taken by American Indian or Alaska Native students (1 took AP CS A and 0 took AP CSP); no exams were taken by Native Hawaiian or Pacific Islander students.
- Only 12 schools in ND (22% of ND schools with AP programs) offered an AP Computer Science course in 2017-2018 (13% offered AP CS A and 6% offered AP CSP), which is 2 more than the previous year.
- Universities in North Dakota did not graduate a single new teacher prepared to teach computer science in 2017.
What can you do to support K-12 CS education in North Dakota?

- 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 North Dakota: [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, Maggie Glennon, at maggie@code.org.

Code.org's impact in North Dakota

- In North Dakota, Code.org’s curriculum is used in
  - 28% of elementary schools
  - 18% of middle schools
  - 16% of high schools
- There are 1,966 teacher accounts and 68,422 student accounts on Code.org in North Dakota.
- Of students in North Dakota using Code.org curriculum last school year,
  - 10% attend high needs schools
  - 52% are in rural schools
  - 48% are female students
  - 23% are underrepresented minority students (Black/African American, Hispanic/Latino, American Indian, or Hawaiian)
- Code.org, its regional partner(s) EduTech, and 5 facilitators have provided professional learning in North Dakota for
  - 364 teachers in CS Fundamentals (K-5)
  - 35 teachers in Exploring Computer Science or Computer Science Discoveries
  - 21 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.

North Dakota has not yet created a state plan for K-12 computer science. A plan that articulates the goals for computer science, strategies for accomplishing the goals, and timelines for carrying out the strategies is important for making computer science a fundamental part of a state’s education system.

North Dakota has established K-12 computer science standards.

North Dakota 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.

North Dakota has clear certification pathways for computer science teachers.

North Dakota 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.

North Dakota does not yet have dedicated computer science positions in state or local education agencies. Creating a statewide computer science leadership position within the state education agency 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.

North Dakota 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.

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

North Dakota does not yet allow computer science to count as a core admission requirement at institutions of higher education. Admission policies that do not include rigorous computer science courses as meeting a core entrance requirement, such as in mathematics or science, discourage students from taking such courses in secondary education. State leaders can work with institutions of higher education to ensure credit and articulation policies align with secondary school graduation requirements.

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.