C O D E

COMPUTING IN THE CORE
Advocating for K-12 Computer Science Education

Make Computer Science in K-12 Count!

Computer science is driving job growth and innovation throughout our economy and society. More than half of projected jobs in STEM fields are in computing occupations; these occupations dominate "help wanted" ads; and computer science is one of the hottest degrees for new college graduates. Despite this, computer science education is marginalized throughout our K-12 education system – denying access to this critical knowledge, particularly among underrepresented minorities. *In fact, only 13 states and the District of Columbia allow rigorous and engaging computer science courses to satisfy a math or science requirement for graduation from high school.*
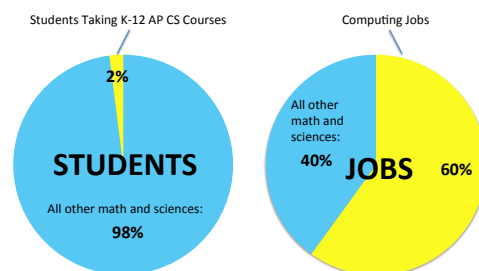
What can states do to improve K-12 computer science education?

- **Allow computer science classes to satisfy existing graduation requirements for math or science.** Current computer science courses often do not count towards a student's required coursework – they are treated as electives. Given the academic demands, college-bound students cannot afford to take computer science as an elective. This policy would not require schools to offer computer science or students to study it; it simply allows existing computer science courses to satisfy a core requirement that already exists.
- **Establish computer science standards.** Most states do not have discrete computer science standards within their existing state standards. States should establish rigorous standards for computer science focused on the creation (not just the use) of software and other computing technologies. The *Computer Science Teachers Association* has model K-12 CS standards.
- **Establish or strengthen computer science teacher certification processes.** Most states do not have clear pathways for people to become computer science teachers. Those that have the desire, knowledge and skills to teach young people computer science should have a clear, navigable and rewarding path to K-12 classrooms.
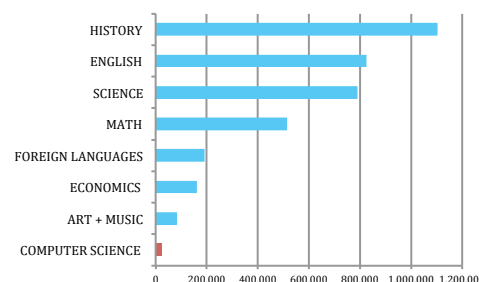
Why K-12 computer science?

- **Computer science is a foundational science for the Digital Age.** Computer science develops students' computational and critical thinking skills and shows them how **to create**, not simply use, new technologies. This fundamental knowledge is needed to prepare students for the 21st century, regardless of their ultimate field of study or occupation.
- **The outlook for computer science jobs is bright.** The US Bureau of Labor Statistics predicts one in every two STEM jobs in the country will be in computing occupations, with more than 150,000 job openings annually making it one of the fastest growing occupations in the United States. And these jobs *pay 75 percent more* than the national median annual salary. Finally the breadth of industries requiring computing professionals is diverse — two-thirds of computing jobs are in sectors other than information technology, including manufacturing, defense, health care, finance, and government.
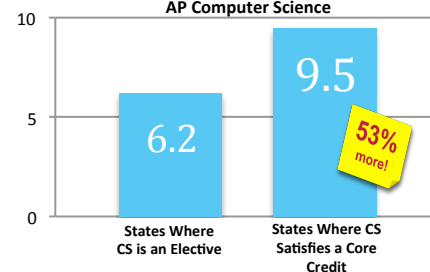
The Facts

Students Taking K-12 AP CS Courses

STUDENTS
2%
All other math and sciences: 98%

Computing Jobs

JOBS
All other math and sciences: 40%
60%

2012 High School Advanced Placement Enrollment

HISTORY	
ENGLISH	
SCIENCE	
MATH	
FOREIGN LANGUAGES	
ECONOMICS	
ART + MUSIC	
COMPUTER SCIENCE	

0   200,000   400,000   600,000   800,000   1,000,000   1,200,000

Average High School Class Size AP Computer Science

10

6.2
States Where CS is an Elective

9.5
States Where CS Satisfies a Core Credit

53% more!

5

0

Sources: College Board, BLS Data

> "Computer science is a liberal art, it's something that everyone should be exposed to, everybody should have a mastery of to some extent" **– Steve Jobs**

See code.org or computinginthecore.org for partners and more information on computer science education
Contact: cameron@code.org or della.cronin@computinginthecore.org
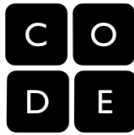
Supporters of Making CS Count!