



Association for Computing Machinery
Advancing Computing as a Science & Profession

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SENATOR CASEY AND CONGRESSMAN POLIS INTRODUCE MEASURE TO ADDRESS CRISIS IN K-12 COMPUTER SCIENCE EDUCATION

September 22, 2011 - WASHINGTON, D.C. – Senator Robert Casey (D-PA) and Congressman Jared Polis (D-CO) today introduced the *Computer Science Education Act*, a key legislative initiative that is part of a continuing effort to address the growing crisis in K-12 computer science education. The legislation will bolster computer science education programs across the country, and help ensure that the education pipeline will produce the workforce the nation will need to thrive and compete in the 21st century.

The Act targets a variety of factors that currently work against quality computer science in K-12 education. They include uneven or nonexistent computer science learning standards across the states, scant availability of professional development for computer science teachers, deep confusion about certification for computer science teachers, and a declining number of K-12 computer science courses.

“In K-12 education, computer science courses are fading from the national landscape at the very moment they are needed most,” said John White, CEO, ACM. “Introductory secondary school computer science courses have decreased in number by 17 percent from 2005. The number of AP Computer Science courses has also decreased by 33 percent. As lawmakers consider how to improve the country’s education system, the goals of the *Computer Science Education Act* must be taken into account. Computer science must be a fundamental discipline in our nation’s classrooms if we want to be successful in the 21st Century.”

The legislation is supported by major stakeholders in the computing field ranging from industry – Microsoft, Google and SAS – to non-profit associations including the Association for Computing Machinery (ACM), Computer Science Teachers Association (CSTA), National Center for Women and Information Technology (NCWIT), Computing Research Association (CRA), Anita Borg Institute (ABI), College Board, National Council of Teachers of Mathematics (NCTM), and the National Science Teachers Association (NSTA). As Congress continues efforts to reauthorize the *Elementary and Secondary Education Act*, these organizations are working to ensure that the proposed *Computer Science Education Act* is a central part of the discussion.

“With significant job creation over the next decade in industries fueled by computer science, better K-12 instruction in this STEM field is critical to our economic competitiveness,” said Senator Casey. “To help our schools improve computer science instruction, I am proud to introduce the *Computer Science*

Education Act in the Senate. This legislation will give more students the opportunity to study computer science and position themselves for the jobs of the future.”

The central part of the Act proposes grants to assess the current condition of computer science education in the states, and create state plans and actions for reform. It also calls for the formation of a commission to review the national computer science education environment, and create strong teacher preparation programs at institutions of higher education.

“Exposing young people to computer science and the limitless opportunities it offers is more important than ever, and we are pleased Representative Polis and Senator Casey agree,” said Maggie Johnson, director of education, Google. “The *Computer Science Education Act* encourages states to examine what is going on in local computer science classrooms and consider how to give students educational opportunities that support lucrative, rewarding careers and contribute to the most dynamic, innovative industry in the United States.”

“Continued U.S. competitiveness in information technology and emerging areas like cloud computing is dependent on tomorrow’s highly skilled workforce; therefore, it’s imperative that access to quality computer science education be expanded across the country,” said Dan Reed, corporate vice president, Technology Policy Group, Microsoft Corp. “By exposing students to computing early on, we are preparing them with the analytical and technical skills that are in high demand today, while also helping to foster a new generation of innovators and job creators.”

Key features of the *Computer Science Education Act* legislation include plans to:

- Fund planning grants for states to work with stakeholders to assess their computer science offerings in K-12 and develop concrete steps to strengthen them
- Fund implementation grants for states, in partnership with local school districts and institutions of higher education, to carry out state plans by: developing state computer science standards, curriculum, and assessments; improving access to underserved populations; building professional development and teacher certification programs; creating on-line courses; and, ensuring computer science offerings are an integral part of the curriculum
- Establish a blue-ribbon commission to review the state of computer science education nationwide, and bring states together to address the computer science teacher certification crisis
- Establish computer science teacher preparation programs at institutions of higher education
- Create an independent, rigorous evaluation of state programs funded under this Act with results reported to Congress and the Administration

This legislation addresses the policies and practices that are undercutting K-12 computer science education in the United States and provides a much-needed catalyst for reform. It also acknowledges the central role of computer science in the digital revolution that is sweeping commerce, society, and all fields of science.

Government projections show that in the next 10 years, more than 1.5 million high-wage jobs in the technology sector will be created in the U.S. economy, making computing one of the fastest growing occupational sectors. Studying computer science, regardless of a student's ultimate occupation, will provide the critical computational thinking, knowledge, and practices necessary to be ready for college or career.

About ACM

ACM, the Association for Computing Machinery www.acm.org, is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

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