

HOUSE BILL REPORT

HB 1472

As Reported by House Committee On:
Education
Appropriations Subcommittee on Education

Title: An act relating to initiatives to improve and expand access to computer science education.

Brief Description: Providing initiatives to improve and expand access to computer science education.

Sponsors: Representatives Hansen, Habib, Freeman and Magendanz.

Brief History:

Committee Activity:

Education: 2/7/13, 2/14/13, 2/21/13 [DPS];

Appropriations Subcommittee on Education: 2/25/13 [DPS(ED)].

Brief Summary of Substitute Bill

- Requires school districts to approve Advanced Placement (AP) Computer Science as equivalent to high school mathematics or science.
- Creates a grant program to support computer science professionals serving as co-instructors for AP Computer Science and upgrades in technology, curriculum, and teacher training, if funds are appropriated.
- Directs the Workforce Training and Education Coordinating Board to convene a Computer Science Professional Shortage Task Force and issue an initial report by December 15, 2013.

HOUSE COMMITTEE ON EDUCATION

Majority Report: The substitute bill be substituted therefor and the substitute bill do pass. Signed by 21 members: Representatives Santos, Chair; Stonier, Vice Chair; Dahlquist, Ranking Minority Member; Magendanz, Assistant Ranking Minority Member; Bergquist, Fagan, Haigh, Hargrove, Hawkins, Hayes, Hunt, Klippert, Lytton, Maxwell, McCoy, Orwall, Parker, Pike, Pollet, Seaquist and Warnick.

Staff: Barbara McLain (786-7383).

This analysis was prepared by non-partisan legislative staff for the use of legislative members in their deliberations. This analysis is not a part of the legislation nor does it constitute a statement of legislative intent.

Background:

According to data maintained by the Office of the Superintendent of Public Instruction (OSPI), there are 35 high schools in the state approved to offer Advanced Placement (AP) Computer Science, and just under 700 students enrolled in AP Computer Science courses in 2011-12.

Although computer science is a career and technical education (CTE) course, school districts have been directed to examine their credit-granting policies and award academic credit for CTE courses that are determined to be equivalent to an academic course. The OSPI has developed a Course Equivalency Toolkit to assist districts in making these determinations. School districts are encouraged to consider computer programming as equivalent to a mathematics course. There is no data collected on district credit-granting policies.

To meet state high school graduation requirements, students must take Algebra I and Geometry in order to pass the state end-of-course assessments in those subjects. The State Board of Education has established Algebra II as the third credit of mathematics required for graduation, but students may select an alternative course based on their High School and Beyond Plan. Two credits of science are required for graduation, one of which must be a laboratory science. One of the minimum admissions requirements for public four-year institutions of higher education is that students take a math-based quantitative course in their senior year.

The Technology, Education, and Literacy in Schools (TEALS) Program is a private initiative to place computer science professionals in high school classrooms on a voluntary basis to co-teach advanced computer science courses along with the regular classroom teacher. Participating high schools must provide a \$5,000 stipend to the professionals. The Microsoft Corporation supports the TEALS Program, and most of the professionals are Microsoft employees. The TEALS program currently operates in more than 20 high schools in Washington.

Summary of Substitute Bill:

School districts must approve AP Computer Science as equivalent to a high school mathematics or science course, and must denote on a student's transcript that AP Computer Science qualifies as a math-based quantitative course for students who take it in their senior year. For AP Computer Science to be equivalent to high school mathematics, a student must be enrolled in or have completed Algebra II.

If funding is appropriated, the OSPI allocates grants to school districts on a competitive basis to increase their capacity to offer AP Computer Science. Priority must be given to rural districts, districts with limited access to technology-based industries, high schools with substantial low-income enrollment, and high schools that do not offer AP Computer Science.

Two grant programs are established. In the first program, school districts establish partnerships to support computer science professionals serving as co-instructors for AP

Computer Science on a voluntary basis. Grant recipients must create an opportunity for the certificated teacher to increase his or her instructional knowledge and skills in advanced computer science that also qualifies for clock hours of continuing education. The OSPI must assure that funds are used to increase the number of such courses, not supplant current funding.

Under the second program, recipients may use grant funds to purchase or upgrade technology and curriculum, and provide professional development to be able to offer additional AP Computer Science courses. The OSPI must develop an evaluation and reporting component for the grant programs.

The Workforce Training and Education Coordinating Board must convene a Computer Science Professional Shortage Task Force (Task Force). The Task Force must include technology businesses and business organizations, state education and higher education agencies, education and higher education providers, and computer science teachers and faculty.

The purpose of the Task Force is to develop a strategic plan to increase the number of graduates from high schools, colleges, and universities who are prepared to enter the workforce or continue their education in computer science. An initial report is due to the Legislature by December 15, 2013, with annual reports thereafter until 2016. The Task Force expires on June 30, 2017.

Substitute Bill Compared to Original Bill:

School districts must approve AP Computer Science as equivalent to science as well as mathematics, and denote on the student's transcript that it qualifies as a math-based quantitative course. For AP Computer Science to be equivalent to high school mathematics, a student must be enrolled in or have completed Algebra II. The competitive grant program is divided into two programs, with the second providing grants for school districts to purchase or upgrade technology and curriculum, and provide professional development to be able to offer additional AP Computer Science courses. Priorities are established for awarding the grants, and an evaluation component is added. The assignment to the Task Force is modified, and the first report is due December 15, 2013, rather than September 15, 2014. The Task Force expires June 30, 2017. Provisions are removed that directed the OSPI to seek additional providers of online computer science courses through the Digital Learning Department.

Appropriation: None.

Fiscal Note: Available. New fiscal note requested on February 21, 2013.

Effective Date of Substitute Bill: The bill takes effect 90 days after adjournment of the session in which the bill is passed.

Staff Summary of Public Testimony:

(In support) The purpose of the bill is to help students train for high technology jobs and increase the supply of computer science professionals. The Task Force provides a platform for thinking creatively about the problem of a professional shortage. The bill has been developed with the assistance of many interested parties. This will help improve students' interest in computer science by making it a math or science credit. If they do become interested, the hope is that they will continue and take additional courses in college.

There are nearly three times as many job openings in computer science as there are qualified applicants. As a state, we are not keeping pace with providing opportunities for Washington students to gain the skills to qualify for these jobs, and we should look for every opportunity to expand computer science education. Students who take an AP Computer Science course are eight times more likely to major in computer science. This bill provides an extra incentive for students to take this course, and expands the capacity of schools to offer it. It should be clarified that the course equivalency in the bill occurs only after a student has completed the math and science course requirements for graduation.

(Opposed) None.

Persons Testifying: Representative Hansen, prime sponsor; Lew McMurrin, Washington Technology Industry Association; Caroline King, Washington STEM; and Eleni Papadakis, Workforce Training and Education Coordinating Board.

Persons Signed In To Testify But Not Testifying: Dave Powell, Stand for Children; and Jana Carlisle, Washington Roundtable and Partnership for Learning.

HOUSE COMMITTEE ON APPROPRIATIONS SUBCOMMITTEE ON EDUCATION

Majority Report: The substitute bill by Committee on Education be substituted therefor and the substitute bill do pass. Signed by 10 members: Representatives Haigh, Chair; Fagan, Ranking Minority Member; Carlyle, Dahlquist, Haler, Maxwell, Pettigrew, Seaquist, Sullivan and Wilcox.

Staff: Jessica Harrell (786-7349).

Summary of Recommendation of Committee On Appropriations Subcommittee on Education Compared to Recommendation of Committee On Education:

No new changes were recommended.

Appropriation: None.

Fiscal Note: Available.

Effective Date of Substitute Bill: The bill takes effect 90 days after adjournment of the session in which the bill is passed.

Staff Summary of Public Testimony:

(In support) The aim of this bill is to get students prepared for high-paying computer programming jobs. In other states it has made a big difference to have the Advanced Placement (AP) Computer Science classes count as a math class, as students taking the class need the math credits when applying for college. Administration costs are minimal as are the individual grant costs. While fully supporting the grants, there is a minor concern regarding the AP Computer Science counting as a math credit. It is important to make sure that students continue to take pre-calculus and calculus.

(Opposed) None.

Persons Testifying: Representative Hansen, prime sponsor; Lew McMurrin, Washington Technical Industry Association; and Paul Francis, Council of Presidents.

Persons Signed In To Testify But Not Testifying: None.