

114TH CONGRESS
1ST SESSION

S. 671

To amend the Elementary and Secondary Education Act of 1965 to strengthen elementary and secondary computer science education, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 4, 2015

Mr. CASEY (for himself and Mr. RUBIO) introduced the following bill; which was read twice and referred to the Committee on Health, Education, Labor, and Pensions

A BILL

To amend the Elementary and Secondary Education Act of 1965 to strengthen elementary and secondary computer science education, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Computer Science
5 Education and Jobs Act of 2015”.

6 **SEC. 2. REFERENCES.**

7 Except as otherwise expressly provided, whenever in
8 this Act an amendment or repeal is expressed in terms
9 of an amendment to, or repeal of, a section or other provi-

1 sion, the reference shall be considered to be made to a
 2 section or other provision of the Elementary and Sec-
 3 ondary Education Act of 1965 (20 U.S.C. 6301 et seq.).

4 **SEC. 3. COMPUTER SCIENCE DEFINITIONS.**

5 (a) IN GENERAL.—Section 9101 (20 U.S.C. 7801)
 6 is amended—

7 (1) by redesignating paragraphs (7) through
 8 (10), (11), and (34) through (43) as paragraphs (8)
 9 through (11), (34), and (35) through (44), respec-
 10 tively, and by moving paragraph (34) (as so redesign-
 11 ated) to follow paragraph (33);

12 (2) by inserting after paragraph (6) the fol-
 13 lowing:

14 “(7) COMPUTER SCIENCE.—The term ‘com-
 15 puter science’ means the study of computers and al-
 16 gorithmic processes and includes the study of com-
 17 puting principles, computer hardware, software de-
 18 sign, computer applications, and the impact of com-
 19 puters on society.”;

20 (3) in paragraph (34), as redesignated by para-
 21 graph (1)—

22 (A) in the paragraph heading, by striking
 23 “CORE ACADEMIC” and inserting “PRIORITY”;

24 (B) by striking “core academic” and in-
 25 serting “priority”; and

1 (C) by striking “and geography” and in-
 2 serting “geography, and computer science”; and
 3 (4) in paragraph (35)(A), as redesignated by
 4 paragraph (1)—

5 (A) in clause (i), by inserting “(including
 6 computer science)” after “academic subjects”;
 7 and

8 (B) in clause (xi), by striking “core aca-
 9 demic subjects” and inserting “priority sub-
 10 jects”.

11 (b) CONFORMING AND TECHNICAL AMENDMENTS.—
 12 The Elementary and Secondary Education Act of 1965
 13 (20 U.S.C. 1001 et seq.) is amended—

14 (1) in each of sections 1112(g)(4),
 15 1603(b)(2)(B), 2113(c)(4), 2403(2)(A)(i)(I),
 16 2415(3)(C), 3231(c)(2), 3302(e)(1)(B)(ii), and
 17 7121(c)(1)(B), by striking “core academic subjects”
 18 and inserting “priority subjects”;

19 (2) in each of sections 1116(b)(3)(A),
 20 1119(a)(2), 2123(a), 2134(a), 2416(a), 3102,
 21 3115(c), and 4201, by striking “core academic sub-
 22 jects” each place the term appears and inserting
 23 “priority subjects”.

1 **SEC. 4. EXPANDING ACCESS TO ADVANCED PLACEMENT**
 2 **COMPUTER SCIENCE.**

3 Section 1705(c)(4) (20 U.S.C. 6535(c)(4)) is amend-
 4 ed by striking “and science” and inserting “science, and
 5 computer science”.

6 **SEC. 5. COMPUTER SCIENCE IN STATE PLANS AND STATE**
 7 **REPORT CARDS.**

8 (a) STATE PLANS AND STATE REPORT CARDS.—Sec-
 9 tion 1111 (20 U.S.C. 6311) is amended—

10 (1) in subsection (b)—

11 (A) in paragraph (1)(E), by inserting “,
 12 including computer science,” after “For the
 13 subjects”; and

14 (B) in paragraph (8)—

15 (i) in subparagraph (D), by striking
 16 “and” at the end;

17 (ii) in subparagraph (E), by striking
 18 the period at the end and inserting “;
 19 and”; and

20 (iii) by adding at the end the fol-
 21 lowing:

22 “(F) how the State educational agency
 23 shall consider including computer science in
 24 academic standards, academic accountability,
 25 and assessments under subsection (b).”; and

1 (2) in subsection (h)(1), by adding at the end
 2 the following:

3 “(E) WORKFORCE NEEDS INFORMATION.—

4 The State shall include, in the State report
 5 card, a description of the 10 most in-demand
 6 occupations in the State for the most recent
 7 year for which data are available, and how the
 8 subjects being taught in the public elementary
 9 schools and secondary schools of the State are
 10 exposing students to knowledge and skills that
 11 are or will be in demand in the State and local
 12 workforces.”.

13 (b) HIGHLY QUALIFIED TEACHERS.—Section
 14 1119(a)(2) (20 U.S.C. 6319(a)(2)) is amended by striking
 15 the period after “school year” and inserting “, except that
 16 computer science teachers shall be highly qualified not
 17 later than the end of the 2016–2017 school year.”.

18 **SEC. 6. COMPUTER SCIENCE IN MATHEMATICS AND**
 19 **SCIENCE PARTNERSHIPS.**

20 (a) SUBPART HEADING.—Part B of title II (20
 21 U.S.C. 6661 et seq.) is amended by inserting after the
 22 part heading the following new subpart heading:

23 **“Subpart 1—Partnership Grants”.**

24 (b) PURPOSES AND DEFINITIONS.—

1 (1) Section 2201(a)(3) (20 U.S.C. 6661(a)(3))
 2 is amended by striking “and engineers” and insert-
 3 ing “engineers, computer science professionals, and
 4 informatics professionals”.

5 (2) Section 2201(b) (20 U.S.C. 6661(b)) is
 6 amended—

7 (A) in paragraph (1)—

8 (i) in subparagraph (A)(ii), by strik-
 9 ing “or science” and inserting “science,
 10 informatics, or computer science”; and

11 (ii) in subparagraph (B)(i), by insert-
 12 ing “informatics, computer science,” after
 13 “science,”;

14 (B) by redesignating paragraph (2) as
 15 paragraph (3); and

16 (C) by inserting after paragraph (1) the
 17 following:

18 “(2) MATHEMATICS AND SCIENCE.—Except
 19 when used in subsections (b)(2)(B) and (c)(3)(A)(ii)
 20 of section 2202, the term ‘mathematics and science’
 21 means science, technology, engineering, mathe-
 22 matics, and computer science.”.

23 (c) AUTHORIZED ACTIVITIES.—

24 (1) Section 2202(c) (20 U.S.C. 6662(c)) is
 25 amended—

1 (A) in paragraph (4), by striking “and
2 science” and inserting “science, informatics,
3 and computer science”;

4 (B) in each of subparagraphs (A), (C), and
5 (D) of paragraph (4), by striking “or science”
6 and inserting “science, informatics, or computer
7 science”;

8 (C) in paragraph (5), by striking “and
9 science.” at the end and inserting “, science,
10 computer science, and informatics.”;

11 (D) in paragraph (8), by striking “and en-
12 gineers” and inserting “engineers, computer
13 science professionals, and informatics profes-
14 sionals”; and

15 (E) in paragraph (10), by striking “engi-
16 neering and technology” and inserting
17 “informatics”.

18 (2) Section 2202(e)(2)(C) (20 U.S.C.
19 6662(e)(2)(C)) is amended—

20 (A) in clause (ii), by striking “or the
21 sciences” and inserting “the sciences,
22 informatics, or computer science”; and

23 (B) in clause (iii), by striking “engineer-
24 ing, and science.” and inserting “engineering,
25 science, informatics, and computer science.”

1 (d) CONFORMING AND TECHNICAL AMENDMENTS.—

2 (1) The table of contents in section 2 is amend-
 3 ed by inserting after the item relating to the heading
 4 to part B of title II the following:

“Subpart 1—Partnership Grants”.

5 (2) Section 2201 (20 U.S.C. 6661) is amend-
 6 ed—

7 (A) in subsection (a), in the matter pre-
 8 ceding paragraph (1), by striking “part” and
 9 inserting “subpart”; and

10 (B) in subsection (b), in the matter pre-
 11 ceding paragraph (1), by striking “part” and
 12 inserting “subpart”.

13 (3) Section 2202 (20 U.S.C. 6662) is amend-
 14 ed—

15 (A) in subsection (a)—

16 (i) in each of subparagraphs (B) and
 17 (C) of paragraph (2), by striking “part”
 18 and inserting “subpart”;

19 (ii) in paragraph (3), by striking
 20 “part” and inserting “subpart”; and

21 (iii) in paragraph (4), by striking
 22 “part” and inserting “subpart” each place
 23 the term appears;

1 (B) in each of paragraphs (1) and (2)(E)
 2 of subsection (b), by striking “part” and insert-
 3 ing “subpart”;

4 (C) in subsection (c), by striking “part”
 5 and inserting “subpart”;

6 (D) in each of paragraphs (1) and (2) of
 7 subsection (d), by striking “part” and inserting
 8 “subpart”;

9 (E) in subsection (e)(1), by striking “part”
 10 and inserting “subpart” each place the term
 11 appears; and

12 (F) in subsection (f), by striking “part”
 13 and inserting “subpart”.

14 (4) Section 2203 (20 U.S.C. 6663) is amended
 15 by striking “part” and inserting “subpart”.

16 **SEC. 7. EXPANDING TEACHER PREPARATION PROGRAMS**
 17 **FOR COMPUTER SCIENCE TEACHERS.**

18 (a) COMPUTER SCIENCE MODEL TEACHER PREPA-
 19 RATION PROGRAM.—Part B of title II (20 U.S.C. 6661
 20 et seq.), as amended by section 6, is further amended by
 21 adding at the end the following:

1 **“Subpart 2—Model Teacher Preparation Program**

2 **“SEC. 2211. COMPUTER SCIENCE MODEL TEACHER PREPA-**
 3 **RATION PROGRAM.**

4 “(a) ESTABLISHMENT.—The Secretary is authorized
 5 to award grants, on a competitive basis, to institutions of
 6 higher education to improve training for elementary school
 7 and secondary school computer science teachers.

8 “(b) ELIGIBILITY.—The Secretary may award a
 9 grant under this section to an institution of higher edu-
 10 cation that—

11 “(1) has, at minimum—

12 “(A) a program in teacher education; and

13 “(B) a program in computer science or
 14 informatics; and

15 “(2) submits an application at such time, in
 16 such form, and containing such information and as-
 17 surances as the Secretary may require.

18 “(c) USE OF FUNDS.—An institution of higher edu-
 19 cation that receives a grant under the section shall use
 20 the grant funds to carry out not less than 1 of the fol-
 21 lowing activities:

22 “(1) Develop courses for undergraduate stu-
 23 dents that—

24 “(A) prepare such students to teach com-
 25 puter science in elementary schools and sec-
 26 ondary schools;

1 “(B) address content and pedagogy in
2 informatics or computer science education; and

3 “(C) engage the teacher education depart-
4 ment and other relevant departments at the in-
5 stitution of higher education.

6 “(2) Develop and fund teacher mentoring pro-
7 grams to support elementary school and secondary
8 school computer science teachers who are new to the
9 profession.

10 “(d) DURATION OF GRANTS.—Each grant awarded
11 by the Secretary under this section shall be for a period
12 of 5 years.

13 “(e) REPORT.—Not later than 180 days after the
14 conclusion of the grant period described under subsection
15 (d), an institution of higher education that receives a
16 grant under this section shall submit to the Secretary and
17 Congress a report that—

18 “(1) identifies the number of teachers served
19 under the grant;

20 “(2) identifies the number of teachers described
21 in paragraph (1) who obtain a teaching position in
22 a computer science classroom; and

23 “(3) evaluates the activities carried out under
24 this section.”.

(b) TECHNICAL AMENDMENT.—The table of contents in section 2 is amended by inserting before the item relating to part C of title II the following:

“Subpart 2—Model Teacher Preparation Program

“Sec. 2211. Computer science model teacher preparation program.”.

**SEC. 8. COMPUTER SCIENCE IN THE ROBERT NOYCE
TEACHER SCHOLARSHIP PROGRAM.**

Section 10 of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n–1) is amended—

(1) by striking “and mathematics” and inserting “mathematics, informatics, and computer science” in each place the term appears;

(2) in subsection (a)(3)(B), by striking “or mathematics” and inserting “mathematics, informatics, and computer science”;

(3) in each of subsections (b)(1)(D)(i), (c)(1)(A), (d)(1), by striking “or mathematics” and inserting “mathematics, informatics, or computer science”; and

(4) in subsection (i)—

(A) in paragraph (5), by striking “or mathematics” and inserting “mathematics, or computer science”; and

(B) in paragraph (7), by striking “or mathematics” each place the term appears and

- 1 inserting “mathematics, informatics, or com-
- 2 puter science”.

