

114TH CONGRESS
1ST SESSION

H. R. 4041

To establish a task force to share best practices on computer programming and coding for elementary schools and secondary schools, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

NOVEMBER 17, 2015

Mr. CÁRDENAS (for himself, Mr. FARENTHOLD, Mr. CARTWRIGHT, Mr. GALLEG0, Mr. GUTIÉRREZ, Mr. HONDA, Mr. COHEN, Mr. FOSTER, and Ms. JUDY CHU of California) introduced the following bill; which was referred to the Committee on Education and the Workforce

A BILL

To establish a task force to share best practices on computer programming and coding for elementary schools and secondary schools, 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
5 “416d65726963612043616e20436f6465 Act of 2015” or
6 the “America Can Code Act of 2015”.

7 **SEC. 2. FINDINGS.**

8 Congress finds the following:

1 (1) According to the National Science Founda-
2 tion, 2 percent of students studying science, tech-
3 nology, engineering, or math (STEM) are computer
4 science majors, while 60 percent of STEM jobs are
5 in the computing field.

6 (2) The Bureau of Labor Statistics estimates
7 that computer programming jobs are growing at
8 twice the national job growth average, and these
9 jobs are high paying middle class jobs that can se-
10 cure the financial future of many American families
11 and also help grow the United States economy.

12 **SEC. 3. SENSE OF CONGRESS.**

13 It is the sense of Congress that—

14 (1) secondary schools should focus on preparing
15 career and technical students, including underrep-
16 resented groups such as minorities and women, for
17 academic and technical opportunities in postsec-
18 ondary education or entry into a high paying, skilled
19 job in the computer programming field;

20 (2) elementary schools and secondary schools
21 should place emphasis on coding and computer pro-
22 gramming as a vocational and technical education
23 track;

1 (3) educators should rethink the way coding as
 2 a skill is conceptualized within the education system
 3 and in our society; and

4 (4) learning to write and read code is critical to
 5 creating and innovating in cyberspace, and learning
 6 this language is also a skill critical to the national
 7 security and economic competitiveness of the United
 8 States.

9 **SEC. 4. CODING AS A CRITICAL FOREIGN LANGUAGE.**

10 Section 6001(b)(1) of the America COMPETES Act
 11 (20 U.S.C. 9802(b)(1)) is amended by inserting “, includ-
 12 ing a computer programming language,” after “a foreign
 13 language”.

14 **SEC. 5. AMENDMENTS TO THE CARL D. PERKINS VOCA-**
 15 **TIONAL AND TECHNICAL EDUCATION ACT OF**
 16 **2006.**

17 The Carl D. Perkins Vocational and Technical Edu-
 18 cation Act of 2006 (20 U.S.C. 2301 et seq.) is amended—

19 (1) in section 122(c) (20 U.S.C. 2342(c))—

20 (A) in paragraph (1)—

21 (i) in subparagraph (A)—

22 (I) in the first sentence, by in-
 23 serting “, including coding and com-
 24 puter programming,” after “the ca-

1 career and technical programs of
2 study”; and

3 (II) in clause (iv), by inserting “,
4 particularly in the technology field”
5 after “or an associate or bacca-
6 laureate degree”;

7 (ii) in subparagraph (H), by inserting
8 “, especially in computer programming”
9 after “in current or emerging occupa-
10 tions”; and

11 (iii) in subparagraph (I)(iii), by in-
12 serting “, especially in computer program-
13 ming” after “or high demand occupa-
14 tions”;

15 (B) in paragraph (7)—

16 (i) in subparagraph (A)(ii), by insert-
17 ing “, particularly coding and computer
18 programming” after “career and technical
19 education subjects”; and

20 (ii) in subparagraph (B), by inserting
21 “, such as the technology industry” after
22 “all aspects of an industry”;

23 (C) in paragraph (9)(C), by inserting “,
24 especially in computer programming” after “or
25 high demand occupations”;

(D) in paragraph (16), by inserting “, especially in computer programming” after “regional occupational opportunities”; and

(E) in paragraph (18), by inserting “, especially in computer programming” after “or high demand occupations and non-traditional fields”; and

(2) in section 203 (20 U.S.C. 2373)—

(A) in subsection (c)—

(i) in paragraph (2)—

(I) in subparagraph (B), by inserting “, especially in coding and computer programming,” after “integrates academic and career and technical education instruction”;

(II) in subparagraph (C), by inserting “, especially in computer programming” after “or high demand occupations”;

(III) in subparagraph (E), by inserting “, particularly in the technology field” after “in a specific career field”; and

(IV) in subparagraph (F), by inserting “, particularly in computer

1 programming,” after “or high wage
2 employment”; and

3 (ii) in paragraph (6), by inserting “,
4 particularly in the technology industry,”
5 after “(including preapprenticeship pro-
6 grams)”;

7 (B) in subsection (d)(1), by inserting “, in-
8 cluding hardware and software” after “provide
9 for the acquisition of tech prep program equip-
10 ment”; and

11 (C) in subsection (e)(1)—

12 (i) in subparagraph (B)—

13 (I) by redesignating clauses (iv)
14 and (v) as (v) and (vi), respectively;
15 and

16 (II) by inserting after clause (iii)
17 the following:

18 “(iv) complete a State or industry-rec-
19 ognized certification or licensure in com-
20 puter programming;”; and

21 (ii) in subparagraph (C)—

22 (I) by redesignating clauses (iii)
23 and (iv) as (iv) and (v), respectively;
24 and

1 (II) by inserting after clause (ii)
2 the following:
3 “(iii) complete a State or industry-
4 recognized certification or licensure in
5 computer programming;”.

6 **SEC. 6. TASK FORCE ON COMPUTER PROGRAMMING AND**
7 **CODING.**

8 (a) ESTABLISHMENT OF TASK FORCE ON COMPUTER
9 PROGRAMMING AND CODING.—Not later than 180 days
10 after the date of enactment of this Act, the Secretary of
11 Education shall convene a task force to explore—

12 (1) mechanisms for the development of draft
13 curricula for elementary and secondary education
14 with respect to computer programming and coding;

15 (2) a mechanism to collect and share best prac-
16 tices among educators with respect to computer pro-
17 gramming and coding at the elementary school and
18 secondary school levels; and

19 (3) a national strategy to ensure competitive-
20 ness in emerging STEM fields, such as computer
21 programming and coding.

22 (b) FUNCTIONS.—The task force shall—

23 (1) develop options for a collaborative model
24 and an organizational structure for such task force
25 under which the joint research and development ac-

1 activities may be planned, managed, and conducted ef-
2 fectively, including mechanisms for the allocation of
3 resources among the participants of such task force
4 for support of such activities;

5 (2) identify and prioritize at least 3 challenges
6 of educating and training a workforce equipped to
7 fill computer science and engineering jobs, particu-
8 larly focused on nationally significant problems re-
9 quiring collaborative and interdisciplinary solutions;

10 (3) propose a process for developing a research
11 and development agenda for such task force to ad-
12 dress the challenges identified under paragraph (2);

13 (4) define the roles and responsibilities for the
14 members from each of the groups described in para-
15 graphs (1) through (4) of subsection (c);

16 (5) establish the information portal described in
17 subsection (e); and

18 (6) make recommendations for how the task
19 force may be funded from Federal, State, and non-
20 governmental sources.

21 (c) COMPOSITION.—In establishing the task force
22 under subsection (a), the Secretary shall appoint to serve
23 on the task force an equal number of representatives from
24 each of the following 4 groups:

1 (1) The Department of Education and other
2 relevant Federal Government agencies.

3 (2) Elementary school or secondary school
4 teachers.

5 (3) Institutions of higher education, including
6 minority-serving institutions and community col-
7 leges.

8 (4) Employers of individuals with expertise in
9 computer science and engineering.

10 (d) COMPENSATION AND EXPENSES.—Members of
11 the task force shall serve without compensation.

12 (e) INFORMATION PORTAL.—

13 (1) IN GENERAL.—The task force shall estab-
14 lish and maintain, an information portal which
15 shall—

16 (A) include the establishment of an online,
17 publicly available information portal for use by
18 elementary schools and secondary schools and
19 stakeholders that directs users to key data and
20 tools to build or update curricula for elementary
21 and secondary education on coding and com-
22 puter programming; and

23 (B) expand and be complementary to exist-
24 ing Federal efforts promoting coding and com-
25 puter programming in elementary schools and

1 secondary schools to prepare for high paying
2 skilled jobs in the computer programming field.

3 (2) CONTENTS.—The information portal estab-
4 lished under this subsection shall direct users (who
5 may include elementary schools and secondary
6 schools, academia, and private sector stakeholders,
7 and non-profit organizations with expertise in cod-
8 ing), to coordinated and systematic information on
9 promoting coding and computer programming in ele-
10 mentary schools and secondary schools to prepare
11 students for high paying skilled jobs in the computer
12 programming field, including—

13 (A) best or model practices;

14 (B) data;

15 (C) case studies;

16 (D) indicators;

17 (E) scientific reports;

18 (F) policy recommendations for Federal,
19 State, and local government;

20 (G) guidance documents and design stand-
21 ards for elementary schools and secondary
22 schools;

23 (H) incentives for teachers;

24 (I) education initiatives;

1 (J) support tools, including draft curricula
2 and appropriate materials for teachers;

3 (K) public and private sources of assist-
4 ance to available to support computer science
5 and engineering in elementary schools and sec-
6 ondary schools; and

7 (L) such other information as the coordi-
8 nating as the task force considers appropriate.

9 (f) REPORT.—Not later than 24 months after the
10 date of enactment of this Act, the Secretary shall transmit
11 to the Committees on Education and Workforce and Over-
12 sight and Government Reform of the House of Represent-
13 atives and the Committees on Health, Education, Labor,
14 and Pensions and Homeland Security and Governmental
15 Affairs of the Senate a report describing the findings and
16 recommendations of the task force.

17 (g) TERMINATION.—The task force shall terminate
18 upon the completion of information portal report required
19 under subsection (e) and the transmittal of the report re-
20 quired under subsection (f).

21 (h) DEFINITIONS.—In this section:

22 (1) ESEA TERMS.—The terms “elementary
23 school” and “secondary school” have the meanings
24 given the terms in section 9101 of the Elementary

1 and Secondary Education Act of 1965 (20 U.S.C.
2 7801).

3 (2) COMMUNITY COLLEGE.—The term “commu-
4 nity college” has the meaning given the term “junior
5 or community college” in section 312(f) of the High-
6 er Education Act of 1965 (20 U.S.C. 1058(f)).

7 (3) INSTITUTION OF HIGHER EDUCATION.—The
8 term “institution of higher education” has the
9 meaning given the term in section 101 of the Higher
10 Education Act of 1965 (20 U.S.C. 1001).

11 (4) MINORITY-SERVING INSTITUTION.—The
12 term “minority-serving institution” means an insti-
13 tution described in section 371(a) of the Higher
14 Education Act of 1965 (20 U.S.C. 20 U.S.C.
15 1067q(a)).

16 (5) SECRETARY.—The term “Secretary” means
17 the Secretary of Education.

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