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113TH CONGRESS
1ST SESSION

H. R. 3734

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

DECEMBER 12, 2013

Mr. CÁRDENAS (for himself and Mr. HONDA) introduced the following bill; which was referred to the Committee on Education and the Workforce

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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.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''416d65726963612043616e20436f6465 Act of 2013'' or the ''America Can Code Act of 2013''.

SEC. 2. FINDINGS.

Congress finds the following:

(1) According to the National Science Foundation, 2 percent of students studying science, technology, engineering, or math (STEM) are computer science majors, while 60 percent of STEM jobs are in the computing field.

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

SEC. 3. SENSE OF CONGRESS.

It is the sense of Congress that—

(1) secondary schools should focus on preparing career and technical students, including underrepresented groups such as minorities and women, for academic and technical opportunities in postsecondary education or entry into a high paying, skilled job in the computer programming field;

(2) elementary schools and secondary schools should place emphasis on coding and computer programming as a vocational and technical education track;

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

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

SEC. 4. CODING AS A CRITICAL FOREIGN LANGUAGE.

Section 6002(b)(1) of the America COMPETES Act (20 U.S.C. 9802(b)(1)) is amended by inserting ", including a computer programming language," after "a foreign language".

SEC. 5. AMENDMENTS TO THE CARL D. PERKINS VOCATIONAL AND TECHNICAL EDUCATION ACT OF 2006.

The Carl D. Perkins Vocational and Technical Education Act of 2006 (20 U.S.C. 2301 et seq.) is amended—

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

(A) in paragraph (1)—

(i) in subparagraph (A)—

(I) in the first sentence, by inserting ", including coding and computer programming," after "the ca-

reer and technical programs of study''; and

(II) in clause (iv), by inserting '', particularly in the technology field'' after ''or an associate or baccalaureate degree'';

(ii) in subparagraph (H), by inserting '', especially in computer programming'' after ''in current or emerging occupations''; and

(iii) in subparagraph (I)(iii), by inserting '', especially in computer programming'' after ''or high demand occupations'';

(B) in paragraph (7)—

(i) in subparagraph (A)(ii), by inserting '', particularly coding and computer programming'' after ''all aspects of an industry''; and

(ii) in subparagraph (B), by inserting '', such as the technology industry'' after ''all aspects of an industry'';

(C) in paragraph (9)(C), by inserting '', especially in computer programming'' after ''or 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

programming,'' after ''or high wage employment''; and

(ii) in paragraph (6), by inserting '', particularly in the technology industry,'' after ''(including preapprenticeship programs)'';

(B) in subsection (d)(1), by inserting '', including hardware and software'' after ''provide for the acquisition of tech prep program equipment''; and

(C) in subsection (e)(1)—

(i) in subparagraph (B)—

(I) by redesignating clauses (iv) and (v) and (v) and (vi), respectively; and

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

''(iv) complete a State or industry-recognized certification or licensure in computer programming;''; and

(ii) in subparagraph (C)—

(I) by redesignating clauses (iii) and (iv) and (iv) and (v), respectively; and

(II) by inserting after clause (ii) the following:

"(iii) complete a State or industry-recognized certification or licensure in computer programming;".

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

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

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

(2) a mechanism to collect and share best practices among educators with respect to computer programming and coding at the elementary school and secondary school levels; and

(3) a national strategy to ensure competitiveness in emerging STEM fields, such as computer programming and coding.

(b) FUNCTIONS.—The task force shall—

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

tivities may be planned, managed, and conducted effectively, including mechanisms for the allocation of resources among the participants of such task force for support of such activities;

(2) identify and prioritize at least 3 challenges of educating and training a workforce equipped to fill computer science and engineering jobs, particularly focused on nationally significant problems requiring collaborative and interdisciplinary solutions;

(3) propose a process for developing a research and development agenda for such task force to address the challenges identified under paragraph (2);

(4) define the roles and responsibilities for the members from each of the groups described in paragraphs (1) through (4) of subsection (c);

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

(6) make recommendations for how task force may be funded from Federal, State, and nongovernmental sources.

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

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

(2) Elementary school or secondary school teachers.

(3) Institutions of higher education, including minority-serving institutions and community colleges.

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

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

(e) INFORMATION PORTAL.—

(1) IN GENERAL.—The task force shall establish and maintain, an information portal which shall—

(A) include the establishment of an online, publicly available information portal for use by elementary schools and secondary schools and stakeholders that directs users to key data and tools to build or update curricula for elementary and secondary education on coding and computer programming; and

(B) expand and be complementary to existing Federal efforts promoting coding and computer programming in elementary schools and

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

(2) CONTENTS.—The information portal established under this subsection shall direct users (who may include elementary schools and secondary schools, academia, and private sector stakeholders, and non-profit organizations with expertise in coding), to coordinated and systematic information on promoting coding and computer programming in elementary schools and secondary schools to prepare students for high paying skilled jobs in the computer programming field, including—

(A) best or model practices;

(B) data;

(C) case studies;

(D) indicators;

(E) scientific reports;

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

(G) guidance documents and design standards for elementary schools and secondary schools;

(H) incentives for teachers;

(I) education initiatives;

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

(K) public and private sources of assistance to available to support computer science and engineering in elementary schools and secondary schools; and

(L) such other information as the coordinating as the task force considers appropriate.

(f) REPORT.—Not later than 24 months after the date of enactment of this Act, the Secretary shall transmit to the Committees on Education and Workforce and Oversight and Government Reform of the House of Representatives and the Committees on Health, Education, Labor, and Pensions and Homeland Security and Governmental Affairs of the Senate a report describing the findings and recommendations of the task force.

(g) TERMINATION.—The task force shall terminate upon the completion of information portal report required under subsection (e) and the transmittal of the report required under subsection (f).

(h) DEFINITIONS.—In this section:

(1) ESEA TERMS.—The terms ''elementary school'' and ''secondary school'' have the meanings given the terms in section 9101 of the Elementary

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

(2) COMMUNITY COLLEGE.—The term ''community college'' has the meaning given the term ''junior or community college'' in section 312(f) of the Higher Education Act of 1965 (20 U.S.C. 1058(f)).

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

(4) MINORITY-SERVING INSTITUTION.—The term ''minority-serving institution'' means an institution described in section 371(a) of the Higher Education Act of 1965 (20 U.S.C. 20 U.S.C. 1067q(a)).

(5) SECRETARY.—The term ''Secretary'' means the Secretary of Education.

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