116TH CONGRESS
1ST SESSION
H. R. 3808

To amend the Higher Education Act of 1965 to include teacher preparation for computer science in elementary and secondary education.

IN THE HOUSE OF REPRESENTATIVES

JULY 17, 2019

Mr. KILMER (for himself, Mr. REED, Mr. CÁRDENAS, Mr. GONZALEZ of Ohio, Mr. RYAN, Mr. RIGGLEMAN, Mr. MORELLE, Ms. KUSTER of New Hampshire, and Mr. CASTEN of Illinois) introduced the following bill; which was referred to the Committee on Education and Labor

A BILL

To amend the Higher Education Act of 1965 to include teacher preparation for computer science in elementary and secondary education.

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 "Teacher Education for

5 Computer Science Act" or the "Teach CS Act".

6 **SEC. 2. TEACHER QUALITY ENHANCEMENT.**

7   (a) PARTNERSHIP GRANTS.—Section 202(d)(5) of

8 the Higher Education Act of 1965 (20 U.S.C. 1022a) is

9 amended—

1   (1) in subparagraph (B), by inserting "com-
2 puter science," after "science,"; and

3   (2) in subparagraph (C), by inserting "(includ-
4 ing computer science, computer engineering, data
5 science, information technology, and cybersecurity
6 professionals)" after "occupations".

7 (b) ACCOUNTABILITY AND EVALUATION.—Section
8 204(a)(4) of the Higher Education Act of 1965 (20 U.S.C.
9 1022c(a)(4)) is amended—

10   (1) in subparagraph (C), by inserting "com-
11 puter science," after "science,"; and

12   (2) in subparagraph (G)—

13   (A) in clause (i), by inserting "(including
14   computational thinking)" after "technology";
15   and

16   (B) in clause (ii), by inserting "(including
17   computational thinking)" after "technology".

18 (c) TEACHER DEVELOPMENT.—Section 206(a) of the
19 Higher Education Act of 1965 (20 U.S.C. 1022e(a)) is
20 amended by inserting "computer science," after
21 "science,".

22 **SEC. 3. ENHANCING TEACHER EDUCATION.**

23 Section 232(c) of the Higher Education Act of 1965
24 (20 U.S.C. 1032a(c)) is amended—

1 (1) in paragraph (2), by inserting ''(including

2 computer science)'' after ''technology''; and

3 (2) in paragraph (3)(B), by inserting ''(includ-

4 ing computer science)'' after ''technology''.

SEC. 4. TEACHER EDUCATION PROGRAMS FOR COMPUTER SCIENCE EDUCATION.

7 Part B of title II of the Higher Education Act of

8 1965 is amended (20 U.S.C. 1021 et seq.) by adding at

9 the end the following:

''SEC. 259. TEACHER EDUCATION PROGRAMS FOR COM-PUTER SCIENCE EDUCATION.

12 ''(a) PROGRAM AUTHORIZED.—From the amounts

13 appropriated to carry out this section, the Secretary may

14 award competitive grants to eligible institutions to estab-

15 lish centers of excellence in teacher education programs

16 for computer science, that may include computational

17 thinking, computing, and computer engineering.

18 ''(b) USE OF FUNDS.—A grant awarded to an eligible

19 institution under this section—

20 ''(1) shall be used by such institution to ensure

21 that current and future teachers meet the applicable

22 State certification and licensure requirements in a

23 field that will enable them to teach computer science

24 in their State at the elementary and secondary

25 school levels, by—

1 ''(A) creating teacher education programs
2 that meet the requirements of section
3 200(6)(A)(iv) and offer, through hands-on and
4 classroom teaching activities with in-service
5 teachers—

6 ''(i) doctoral, master's, or bachelor's
7 degrees in teaching computer science at
8 the elementary school and secondary school
9 levels; or

10 ''(ii) teaching endorsements in com-
11 puter science, in the case of a teacher with
12 related State certification and licensure re-
13 quirements or a student who is pursuing
14 certification and licensure requirements in
15 related fields, such as mathematics and
16 science;

17 ''(B) ensuring that current and future
18 teachers who graduate from such programs
19 meet the applicable State certification and li-
20 censure requirements, including any require-
21 ments for certification obtained through alter-
22 native routes to certification, or, with regard to
23 special education teachers, the qualifications de-
24 scribed in section 612(a)(14)(C) of the Individ-
25 uals with Disabilities Education Act;

1 "(C) recruiting individuals to enroll in
2 such programs, including subject matter experts
3 and professionals in fields related to computer
4 science; and

5 "(D) awarding scholarships and fellowships
6 based on financial need and to recruit tradition-
7 ally underrepresented groups in computer
8 science to help such students pay the cost of at-
9 tendance (as defined in section 472); and

10 "(2) may be used by such institution to—

11 "(A) hire and pay faculty salaries for the
12 teacher education programs described in para-
13 graph (1)(A);

14 "(B) conduct research in computer science
15 education; and

16 "(C) carry out activities to encourage the
17 Secretary to partner with other agencies, and
18 prioritize funding for computer science edu-
19 cation research to support teacher preparation.

20 "(c) DURATION.—

21 "(1) IN GENERAL.—A grant under this section
22 shall be awarded for 5 years, conditional upon a sat-
23 isfactory report to the Secretary of progress with re-
24 spect to the program carried out with the grant
25 after the first 3-years of the grant period.

1 "(2) REPORT OF PROGRESS.—Such report of

2 progress on the program shall include data on the

3 number of students and instructors enrolled, infor-

4 mation on former graduates (including on how many

5 earn teaching certification or licensure in a field that

6 will enable them to teach computer science in their

7 State at the secondary level, or be prepared to teach

8 computer science at the elementary level), and data

9 on any additional funding (other than Federal

10 funds) received to carry out the program.

11 "(d) APPLICATION.—An eligible institution desiring

12 a grant under this section shall submit an application to

13 the Secretary, at such time in such manner, and con-

14 taining such information as the Secretary may require,

15 which shall include—

16 "(1) a demonstration of the need for teachers

17 with the certification or licensure requirements that

18 enable them to teach computer science at the ele-

19 mentary and secondary level in the geographic area

20 or State in which the institution is located;

21 "(2) the plan to ensure the longevity of the pro-

22 gram after the end of the grant; and

23 "(3) the plan to scale up the program (includ-

24 ing the plan for the number of personnel to be hired,

25 a description of their expected qualifications and ti-

1 tles, the number of fellowships and scholarships to

2 be awarded, the estimated administrative expenses,

3 proposed academic advising strategy, and organizing

4 and outreach to maintain virtual community of com-

5 puter science educators).

6 ''(e) MATCHING REQUIREMENT.—

7   ''(1) IN GENERAL.—To receive a grant under

8 this section, an eligible entity shall provide, from

9 non-Federal sources, an amount that is not less than

10 33 percent of the amount of the grant, which may

11 be provided in cash or in-kind, to carry out the ac-

12 tivities supported by the grant.

13   ''(2) WAIVER.—The Secretary may waive all or

14 part of the matching requirement described in para-

15 graph (1) for any fiscal year the Secretary deter-

16 mines that applying such requirement to the eligible

17 institution would result in serious hardship or an in-

18 ability to carry out the authorized activities de-

19 scribed in this section.

20 ''(f) REPORT TO CONGRESS.—Not later than 2 years

21 after the first grant is awarded under his section and each

22 year thereafter, the Secretary shall submit to Congress a

23 report on the success of the program based on metrics de-

24 termined by the Secretary, including the number of cen-

1 ters established, the number of enrolled students, and the

2 number of qualified teachers.

3   "(g) TECHNICAL ASSISTANCE.—The Secretary shall

4 use up to 5 percent of the amount appropriated for each

5 fiscal year to provide technical assistance to eligible insti-

6 tutions.

7   "(h) DEFINITIONS.—In this section:

8   "(1) ELIGIBLE INSTITUTION.—The term 'eligi-

9   ble institution' means an institution of higher edu-

10   cation, as defined in section 101, which may be in

11   a partnership with a nonprofit organization

12   "(2) COMPUTER SCIENCE.—The term 'com-

13   puter science' means the study of computers includ-

14   ing algorithmic processes and engineering principles

15   for hardware and software design, development, and

16   systems integration, and their impact on society.

17   "(3) COMPUTING.—The term 'computing'

18   means any goal-oriented activity requiring, benefit-

19   ting from, or creating algorithmic processes.

20   "(4) COMPUTATIONAL THINKING.—The term

21   'computational thinking' means the human ability to

22   formulate problems so that their solutions can be

23   represented as computational steps or algorithms to

24   be executed by a computer and integrated into

25   broader networks of systems.".

1 **SEC. 5. ADJUNCT TEACHER CORPS.**

2 Section 255 of the Higher Education Act of 1965 (20

3 U.S.C. 1035) is amended—

4   (1) in subsection (a), by inserting "computer

5 science," after "science,";

6   (2) in subsection (b), by inserting "computer

7 science," after "science,";

8   (3) in subsection (e)(1), by inserting "computer

9 science," after "science,";

10   (4) in subsection (f)(2)(A)(i), by inserting

11 "computer science," after "science,";

12   (5) in subsection (g)(1), by inserting "computer

13 science," after "science,";

14   (6) in subsection (g)(3), by inserting "computer

15 science," after "science,"; and

16   (7) in subsection (k)(2), by inserting "computer

17 science," after "science,".

18 **SEC. 6. GRADUATE FELLOWSHIPS TO PREPARE FACULTY**

19 **IN HIGH-NEED AREAS AT COLLEGES OF EDU-**

20 **CATION.**

21 Section 258(d)(2)(A) of the Higher Education Act of

22 1965 (20 U.S.C. 1036(d)(2)(A)) is amended by inserting

23 "(including computer science)" after "technology".

24 **SEC. 7. TEACH GRANT.**

25 Section 420N of the Higher Education Act of 1965

26 (20 U.S.C. 1070g–2) is amended—

1   (1) in subsection (a)(2)(B), by inserting "com-

2 puter science," after "science,"; and

3   (2) in subsection (b)(1)(C)—

4   (A) by redesignating clauses (iii) through

5   (vii) as clauses (iv) through (viii), respectively;

6   and

7   (B) by inserting after clause (ii), the fol-

8   lowing:

9   "(iii) computer science;".

SEC. 8. GRADUATE AND POSTSECONDARY IMPROVEMENT PROGRAMS.

12   (a) PURPOSE.—Section 700(1)(B)(i) of the Higher

13 Education Act of 1965 (20 U.S.C. 1133(1)(B)(i)) is

14 amended by inserting "computer science," after

15 "science,".

16   (b) DESIGNATION OF AREAS OF NATIONAL NEED.—

17 Section 712(b)(4) of the Higher Education Act of 1965

18 (20 U.S.C. 1135a(b)(4)) is amended by inserting before

19 the period at the end the following: ", including the need

20 for computer science".

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