112TH CONGRESS 1ST SESSION

H. R. 2598

To establish a Science, Technology, Engineering, and Math (STEM) Master Teacher Corps program.

IN THE HOUSE OF REPRESENTATIVES

July 20, 2011

Mr. Bishop of New York introduced the following bill; which was referred to the Committee on Education and the Workforce

A BILL

To establish a Science, Technology, Engineering, and Math (STEM) Master Teacher Corps program.

- 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 "STEM Master Teacher
- 5 Corps Act".
- 6 SEC. 2. FINDINGS.
- 7 Congress finds the following:
- 8 (1) Numerous recent reports by national advi-
- 9 sory groups, including the President's Council of Ad-
- visors on Science and Technology and National

- Academies' committees, have highlighted the need to raise student achievement in STEM fields to enable the United States to maintain its competitive edge in the global economy.
 - (2) Nearly all of the top 30 fastest growing occupations require science, technology, engineering, or mathematics skills, according to the Bureau of Labor Statistics.
 - (3) Recent standardized tests show United States students' mathematics and science performance is only average or below average compared with their international peers. American students placed 25th in mathematics and 17th in science out of 34 Organisation for Economic Co-operation and Development countries in the 2009 Program for International Student Assessment.
 - (4) Too few American students graduate from high school with the interest and the preparation to successfully pursue STEM degrees in college. Well over half of college students in China and Japan major in STEM fields, compared with only a third of U.S. students.
 - (5) Several researchers, including at Stanford University, have found that the effects of well-prepared teachers on student achievement can be

- stronger than the influences of student background factors, such as poverty, language background, and minority status.
 - (6) The Harvard Graduate School of Education report "Who Stays in Teaching and Why" cites research that shows more young people would consider teaching if it offered more opportunities for advancement, and that if schools fail to offer teachers these opportunities throughout their teaching careers, they may risk losing them permanently. It also reports that well implemented mentoring and induction programs provide the support novices need to feel satisfied and remain in their schools.
 - (7) Researchers at the University of Pennsylvania have found that STEM teachers migrate within the teaching profession to better paying jobs at better-funded schools, resulting in local imbalances and leaving schools in high-poverty communities struggling to find knowledgeable teachers.
 - (8) Individuals with strong STEM skills have opportunities for more lucrative careers outside of teaching. According to the Organisation for Economic Co-operation and Development (OECD), the United States ranks in the bottom third of OECD countries in terms of teacher salary relative to per

1	capita GDP. Furthermore, data from the National
2	Association of Colleges and Employers show the me-
3	dian salary offered to recent college graduates in
4	certain STEM-related fields, including physics, com-
5	puter science, accounting, and engineering, is
6	\$24,000 higher than that offered to new secondary
7	school teachers and \$30,000 higher than that of-
8	fered to new elementary school teachers.
9	SEC. 3. STEM MASTER TEACHER CORPS.
10	Subpart 5 of part A of title II of the Elementary and
11	Secondary Education Act of 1965 (20 U.S.C. 6651 et
12	seq.) is amended—
13	(1) by inserting before section 2151 the fol-
14	lowing:
15	"CHAPTER A—NATIONAL ACTIVITIES OF
16	DEMONSTRATED EFFECTIVENESS";
17	and
18	(2) by adding at the end the following:
19	"CHAPTER B—STEM MASTER TEACHER
20	CORPS
21	"SEC. 2155. PURPOSE.
22	"The purpose of this chapter is to establish a STEM
23	Master Teacher Corps program that—
24	"(1) elevates the status of the STEM teaching
25	profession by recognizing and rewarding outstanding

1	STEM teachers thereby making STEM teaching
2	more attractive;
3	"(2) attracts and retains effective STEM teach-
4	ers, particularly in high-need schools, by offering
5	them additional compensation, instructional re-
6	sources, and instructional leadership roles; and
7	"(3) creates a network of outstanding STEM
8	teacher-leaders who will—
9	"(A) share best practices and resources;
10	"(B) take on leadership responsibilities in
11	their schools, districts, States (if part of the
12	participating area), or consortia with the au-
13	thority to provide professional support to their
14	STEM colleagues not participating in the
15	STEM Master Teacher Corps;
16	"(C) aid in the development and retention
17	of beginning teachers by serving as their role
18	models and providing them with instructional
19	support; and
20	"(D) inform the development of STEM
21	education policy.
22	"SEC. 2156. DEFINITIONS.
23	"In this chapter:
24	"(1) ELIGIBLE ENTITY.—The term 'eligible en-
25	tity' means a consortium of local educational agen-

1	cies or 1 or more State educational agencies, acting
2	in partnership with 1 or more—
3	"(A) institutions of higher education; or
4	"(B) nonprofit organizations with a dem-
5	onstrated record of success in preparing or im-
6	proving the effectiveness of STEM teachers.
7	"(2) High-need school.—The term 'high-
8	need school' means a public school, which may be a
9	public charter school, that meets 1 or more of the
10	following criteria:
11	"(A) Not less than 40 percent of the stu-
12	dents enrolled at the school—
13	"(i) receive or are eligible to receive a
14	free or reduced price lunch under the Rich-
15	ard B. Russell National School Lunch Act
16	(42 U.S.C. 1751 et seq.); or
17	"(ii) are from low-income families, as
18	determined using 1 of the measures of pov-
19	erty specified under section 1113(a)(5).
20	"(B) The school is among the lowest per-
21	forming 10 percent of schools in the State in
22	which it is located.
23	"(C) In the case of a public high school
24	the school has a graduation rate of 65 percent
25	or less.

1	"(D) In the case of a public school con-
2	taining middle grades, the school feeds into a
3	public high school that has a graduation rate of
4	65 percent or less.
5	"(3) Participating area.—The term 'partici-
6	pating area' means—
7	"(A) in the case of an eligible entity that
8	includes a State educational agency or consor-
9	tium of State educational agencies, the State or
10	States; or
11	"(B) in the case of an eligible entity that
12	includes a consortium of local educational agen-
13	cies, the area served by such agencies.
14	"(4) STEM.—The term 'STEM' means science,
15	technology, engineering, and mathematics.
16	"SEC. 2157. STEM MASTER TEACHER CORPS PROGRAM.
17	"(a) In General.—
18	"(1) Grants authorized.—The Secretary, in
19	consultation with the Director of the National
20	Science Foundation and the heads of other appro-
21	priate Federal agencies, as determined by the Sec-
22	retary, shall establish a STEM Master Teacher
23	Corps program by awarding, on a competitive basis,
24	1 or more grants of not less than $\$15,\!000,\!000$ each
25	to eligible entities to enable the eligible entities to

- establish the program, in accordance with section 2 2159.
- 3 "(2) PLANNING GRANTS.—The Secretary may 4 award planning grants to eligible entities to enable 5 the entities to make plans to establish the program, 6 in accordance with section 2159.

7 "(b) Duration of Grant.—

- "(1) IN GENERAL.—A grant awarded under this chapter shall be for a period of 5 years.
- "(2) Review.—The Secretary shall review, 3 years after an eligible entity is awarded a grant under this chapter, the performance of the entity during the 3-year period to determine if the entity is achieving satisfactory results and to make recommendations as to whether the program should be continued after completion of the 5-year period of the pilot project.

"(c) Matching Requirement.—

"(1) IN GENERAL.—Except as provided in paragraph (2), an eligible entity that receives a grant under this chapter shall provide, from non-Federal sources, an amount equal to not less than 50 percent of the amount of the grant, which may be provided in cash or in-kind, to carry out the activities supported by the grant.

1	"(2) Exception.—
2	"(A) IN GENERAL.—The Secretary may
3	waive the 50-percent matching requirement
4	under paragraph (1) for an eligible entity that
5	the Secretary determines is unable to meet such
6	requirement. The Secretary shall set a match-
7	ing requirement for such eligible entities ac-
8	cording to the sliding scale described in sub-
9	paragraph (B).
10	"(B) SLIDING SCALE.—The amount of a
11	match under subparagraph (A) shall be estab-
12	lished based on a sliding fee scale that takes
13	into account—
14	"(i) the relative poverty of the popu-
15	lation to be targeted by the eligible entity;
16	and
17	"(ii) the ability of the eligible entity to
18	obtain such matching funds.
19	"(3) Consideration.—The Secretary shall not
20	consider an eligible entity's ability to match funds
21	when determining which eligible entities will receive
22	grant awards under this chapter.
23	"SEC. 2158. APPLICATION.
24	"(a) In General.—An eligible entity desiring a
25	grant under this chapter shall submit an application to

- 1 the Secretary at such time, in such manner, and con-
- 2 taining such information as the Secretary may require.
- 3 "(b) Contents.—An application submitted under
- 4 this section shall include—
- 5 "(1) a description of the STEM Master Teach-6 er Corps program that the eligible entity intends to 7 carry out, including the number of Corps members 8 the entity intends to select, the intended distribution 9 of subjects and grade levels taught, the geographic 10 and economic characteristics of the local educational 11 agencies that are part of the participating area, such 12 as the rural-urban continuum codes and proportion 13 of high-need schools served, and the type of activi-14 ties proposed for recruitment of Corps members;
 - "(2) a description of the roles and responsibilities that each participating local educational agency, State, institution of higher education, or nonprofit organization, as applicable, will have;
 - "(3) a demonstration that the entity has sufficient capacity to carry out the activities described in section 2159;
- 22 "(4) a description of the member selection proc-23 ess and criteria that the applicant will use to select 24 members of the STEM Master Teacher Corps, in ac-25 cordance with section 2159(b);

16

17

18

19

20

"(5) a description of how the eligible entity in-tends to facilitate networking and sharing of best practices and educational resources relating to STEM education among Corps members, particu-larly at rural schools, if applicable, and make a se-lection of these best practices and resources more widely available to other teachers and the STEM educational community, including through electronic means; "(6) a demonstration that the entity has a clear

"(6) a demonstration that the entity has a clear plan for—

"(A) offering research-based professional development to Corps members, including training on instructional leadership, mentoring, engaging and effectively teaching historically underachieving or underrepresented groups in STEM fields, such as girls, minorities, low-income students, English language learners, and students with disabilities, and effective STEM teaching methods, such as incorporating hands-on STEM projects into their lesson plans; and

- "(B) tracking the effectiveness of such professional development;
- "(7) a demonstration that the entity has a clear plan for evaluating the impact of the professional

- support provided by STEM Master Teacher Corps members to other teachers in their school, district, State (if part of the participating area), or consor-
- "(8) a description of how the local educational agencies and schools served by the eligible entity intend to align STEM Master Teacher Corps members' duties with school systems and activities already in place, if applicable, such as professional development and mentoring;
 - "(9) an explanation of how STEM Master Teacher Corps members will be afforded the time, authority, and resources to fulfill requirements under the program, and how other teachers will be afforded the time to receive professional support from Corps members;
 - "(10) a demonstration that the entity has a clear plan for oversight to ensure that STEM Master Teacher Corps members carry out the responsibilities described in section 2159(c) to the fullest extent practicable, and a description of the actions to be taken if a member does not carry out such responsibilities; and
- "(11) a description of how the grant funds willbe financially managed.

tium;

11

12

13

14

15

16

17

18

19

20

21

22

1	"(e) Criteria for Awarding Grants.—
2	"(1) In General.—The Secretary shall award
3	grants under this chapter on the basis of merit con-
4	sidering, at a minimum, the following:

"(A) The extent to which the local educational agencies that are part of the eligible entity are committed to integrating the program into existing school structures, policies, operations, and budgets, such as by enabling STEM Master Teacher Corps members to take on leadership roles in their schools, districts, States, if part of the participating area, or consortia, in addition to their classroom duties, including assisting in the development and implementation of professional development activities and driving the instructional program of the school.

- "(B) The quality of the proposed professional development, teacher leadership mentorship activities, and networking opportunities.
- "(C) Demonstration that the local educational agencies and schools they serve have removed barriers to full participation in the program, including affording Corps members

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

1	and the teachers they mentor the time to par-
2	ticipate in activities required by the program.
3	"(D) The number and quality of the indi-
4	viduals that will be served by the program.
5	"(E) The capacity of the eligible entity to
6	effectively carry out the program.
7	"(2) Priority.—In awarding grants under this
8	chapter, the Secretary shall give priority to—
9	"(A) eligible entities that intend to include
10	large numbers of teachers in the STEM Master
11	Teacher Corps; and
12	"(B) eligible entities that intend to include
13	rural schools, particularly high-need rural
14	schools, in the participating area to be served.
15	"SEC. 2159. REQUIRED USE OF FUNDS.
16	"(a) In General.—An eligible entity receiving a
17	grant under this chapter shall use grant funds to—
18	"(1) administer the selection of teachers for
19	membership in the STEM Master Teacher Corps, in
20	accordance with the requirements of subsection (b);
21	"(2) provide compensation to each public school
22	teacher who is selected and serves as a member of
23	the STEM Master Teacher Corps, in recognition of
24	the teacher's teaching accomplishments, leadership,
25	and increased responsibilities, which amount shall—

1	"(A) supplement, and not supplant, the
2	teacher's base salary; and
3	"(B) be equal to \$15,000 per year for each
4	year the teacher serves as a member of the
5	Corps;
6	"(3) provide research-based professional devel-
7	opment activities for members of the STEM Master
8	Teacher Corps, as described in subsection
9	2158(b)(6), and track the effectiveness of such pro-
10	fessional development in order to determine whether
11	to alter professional development activities;
12	"(4) provide discretionary resources for STEM
13	Master Teacher Corps members at high-need public
14	schools to use in their classrooms and schools, in-
15	cluding for afterschool activities, to enrich STEM
16	education and to facilitate long-distance networking,
17	mentoring, and sharing of best practices, including
18	equipment and technology;
19	"(5) assist in coordinating instructional leader-
20	ship roles for STEM Master Teacher Corps mem-
21	bers and mentoring relationships between STEM
22	Master Teacher Corps members and other teachers
23	in the same school, school district, State, if part of
24	the participating area, or consortium in which the
25	Corps members serve as instructional leaders;

1	"(6) facilitate efforts by STEM Master Teacher
2	Corps members to inform STEM education policy at
3	the national, State, and local levels;
4	"(7) help defray costs associated with affording
5	STEM Master Teacher Corps members the time to
6	fulfill their duties as Corps members; and
7	"(8) support other activities that advance the
8	purpose of this chapter.
9	"(b) Selecting Members of the STEM Master
10	TEACHER CORPS.—
11	"(1) Selection criteria for corps mem-
12	BERS.—The eligible entity shall select, as members
13	of the STEM Master Teacher Corps, exemplary
14	STEM teachers at the elementary school and sec-
15	ondary school levels who teach in the participating
16	area, which may also include special education
17	teachers and teachers of English language learners
18	who teach a STEM subject. In selecting the mem-
19	bers, the eligible entity shall—
20	"(A) make decisions based on multiple
21	measures, including the teacher's—
22	"(i) ability to improve student aca-
23	demic achievement in the STEM fields, as
24	demonstrated by, if applicable, student
25	academic growth in such fields;

1	"(ii) ability to enhance student en-
2	gagement in such fields;
3	"(iii) record of leadership in the
4	teacher's school and involvement in profes-
5	sional and outreach activities;
6	"(iv) record of teaching students not
7	on grade level or not on track to graduate
8	college and career ready; and
9	"(v) demonstrated ability to facilitate
10	student academic achievement growth with
11	the students described in clause (iv), where
12	such measures are available; and
13	"(B) evaluate the teacher's ability and
14	record based on multiple measures, such as—
15	"(i) teacher evaluations of pedagogical
16	skills;
17	"(ii) an assessment of content knowl-
18	edge;
19	"(iii) the performance and improve-
20	ment of the teacher's students on tests;
21	"(iv) demonstration of practical pro-
22	fessional experience in the teacher's dis-
23	cipline, such as having worked in industry
24	or research;

1	"(v) involvement in STEM discipline
2	professional societies;
3	"(vi) STEM outreach and community
4	involvement; and
5	"(vii) certification by the National
6	Board for Professional Teaching Stand-
7	ards, or other similar certification, as a
8	high-performing teacher.
9	"(2) Overall corps membership require-
10	MENTS.—An eligible entity receiving a grant under
11	this chapter shall ensure that—
12	"(A) not more than 5 percent of the
13	STEM teachers who teach in the participating
14	area are members of the Corps;
15	"(B) not less than 75 percent of the
16	STEM Master Teacher Corps members are
17	teachers at high-need schools;
18	"(C) there are multiple cohorts of STEM
19	Master Teacher Corps members; and
20	"(D) the STEM Master Teacher Corps in-
21	cludes teachers from each of science, tech-
22	nology, engineering, and mathematics, if teach-
23	ers from each of these disciplines meeting the
24	standards of Corps membership are available in
25	the participating area.

1	"(3) Participation of private school
2	TEACHERS.—An eligible entity may select STEM
3	teachers who teach at private schools in the partici-
4	pating area to be members of the STEM Master
5	Teacher Corps, except that—
6	"(A) not more than 5 percent of teachers
7	selected as STEM Master Teacher Corps mem-
8	bers shall be teachers at private schools; and
9	"(B) private school teachers shall not be
10	eligible for compensation described in sub-
11	section (a)(2), discretionary resource funds de-
12	scribed in subsection (a)(4), or for defrayment
13	funds described in subsection (a)(7).
14	"(c) Corps Member Requirements.—Each teach-
15	er selected to be a member of the STEM Master Teacher
16	Corps who wishes to join the Corps shall enter into an
17	agreement with the eligible entity, under which the teacher
18	shall, as a condition of receiving the compensation de-
19	scribed in subsection (a)(2) and the discretionary re-
20	sources described in subsection (a)(4), agree to carry out
21	the responsibilities of a mentor teacher as required by the
22	eligible entity, including—
23	"(1) participating in professional development
24	activities offered by the program:

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

"(2) networking and sharing best practices and educational resources with other members of the STEM Master Teacher Corps; and

"(3) contributing to the professional development of the teacher's colleagues, which may include providing school-based professional support to other STEM teachers through regular weekly professional development sessions and individual coaching, where possible, leading professional learning communities, and taking on other instructional leadership roles in the teacher's school, district, State, if part of the participating area, or consortium.

"(d) Collection for Noncompliance.—

"(1) MONITORING COMPLIANCE.—Each eligible entity that receives a grant under this chapter shall monitor whether each teacher the entity selects to be a member of the STEM Master Teacher Corps is in compliance with the Corps member requirements described in subsection (c).

"(2) Collection of Repayment.—

"(A) IN GENERAL.—A teacher selected to be a member of the STEM Master Teacher Corps shall repay the additional compensation provided for a school year described in subsection (a)(2) to the eligible entity if—

1	"(i) the entity finds the teacher not in
2	compliance with the Corps member re-
3	quirements described in subsection (c) and
4	the entity determines the teacher should no
5	longer be a member of the Corps for such
6	year; or
7	"(ii) the teacher withdraws during
8	such year from membership in the Corps
9	without an accepted excuse, as determined
10	by the eligible entity.
11	"(B) Compensation returned to the
12	TREASURY.—
13	"(i) In general.—Except as pro-
14	vided in clause (ii), an eligible entity that
15	receives repaid compensation under sub-
16	paragraph (A) shall return such compensa-
17	tion to the United States Treasury.
18	"(ii) Administrative costs.—An el-
19	igible entity that receives repaid compensa-
20	tion under subparagraph (A) may retain a
21	percentage, determined by the Secretary,
22	of such repayment to defray administrative
 23	costs associated with the collection

1 "SEC. 2160. REPORT AND EVALUATION.

2	"(a) Administrative and Reporting Costs.—Of
3	the amounts appropriated for this chapter for any fiscal
4	year, the Secretary may use not more than 6 percent of
5	the funds appropriated for such fiscal year for administra-
6	tive costs and report and evaluation costs under this sec-
7	tion, except that the Secretary may use not more than 3
8	percent of the funds appropriated for such fiscal year for
9	administrative costs.
10	"(b) Reports to the Secretary.—
11	"(1) In general.—Each eligible entity receiv-
12	ing a grant under this chapter shall provide an an-
13	nual report to the Secretary that—
14	"(A) summarizes the activities assisted
15	under the grant and program outcomes; and
16	"(B) includes, with respect to each mem-
17	ber of the STEM Master Teacher Corps, the
18	following:
19	"(i) The name of the member.
20	"(ii) The school at which the member
21	teaches and the location of such school.
22	"(iii) The subject area the teacher
23	teaches.
24	"(iv) The grade level the teacher
25	teaches.

- 1 "(2) Publication.—Each eligible entity receiv-
- 2 ing a grant under this chapter shall publicize the in-
- formation described in paragraph (1)(B).
- 4 "(c) IES EVALUATION.—The Secretary, acting
- 5 through the Director of the Institute of Education
- 6 Sciences, shall—
- 7 "(1) evaluate the implementation and impact of
- 8 the program under this chapter, particularly with re-
- 9 gard to the program's success in achieving the pur-
- 10 pose described in section 2155;
- "(2) identify optimal strategies for the design,
- implementation, and continuing development of the
- 13 STEM Master Teacher Corps program; and
- "(3) identify best practices for developing, sup-
- porting, and retaining STEM teachers based on les-
- sons learned from the program.
- 17 "(d) DISSEMINATION.—The Secretary shall dissemi-
- 18 nate findings from the evaluation conducted under sub-
- 19 section (c) to the STEM education field and make the
- 20 findings publicly available.
- 21 "(e) Reports to Congress.—Not later than 4
- 22 years after the establishment of the program under this
- 23 chapter, and not later than 2 years thereafter, the Sec-
- 24 retary shall prepare and submit to the Committee on Edu-
- 25 cation and the Workforce and the Committee on Science,

- 1 Space, and Technology of the House of Representatives
- 2 and the Committee on Commerce, Science, and Transpor-
- 3 tation and the Committee on Health, Education, Labor,
- 4 and Pensions of the Senate, a report that summarizes—
- 5 "(1) the activities assisted under the program
- 6 under this chapter;
- 7 "(2) the outcomes of the program; and
- 8 "(3) any recommendations regarding changes
- 9 to, the termination of, or the continuation and ex-
- pansion of the program.

11 "SEC. 2161. AUTHORIZATION OF APPROPRIATIONS.

- 12 "There are authorized to be appropriated to carry out
- 13 this chapter \$35,000,000 for fiscal year 2012 and such
- 14 sums as may be necessary for each of the 4 succeeding
- 15 fiscal years.".

 \bigcirc