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

IN THE SENATE OF THE UNITED STATES

APRIL 7 (legislative day, APRIL 5), 2011

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

A BILL

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

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 “STEM Master Teacher Corps Act of 2011”.

SEC. 2. FINDINGS.

Congress finds the following:

(1) Numerous recent reports by national advisory groups, including the President’s Council of Advisors 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
capita GDP. Furthermore, data from the National Association of Colleges and Employers show the median salary offered to recent college graduates in certain STEM-related fields, including physics, computer science, accounting, and engineering, is $24,000 higher than that offered to new secondary school teachers and $30,000 higher than that offered to new elementary school teachers.

SEC. 3. STEM MASTER TEACHER CORPS.

Subpart 5 of part A of title II of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6651 et seq.) is amended—

(1) by inserting before section 2151 the following:

“CHAPTER A—NATIONAL ACTIVITIES OF DEMONSTRATED EFFECTIVENESS”;

and

(2) by adding at the end the following:

“CHAPTER B—STEM MASTER TEACHER CORPS

“SEC. 2155. PURPOSE.

“The purpose of this chapter is to establish a STEM Master Teacher Corps program that—
“(1) elevates the status of the STEM teaching profession by recognizing and rewarding outstanding STEM teachers;

“(2) attracts and retains effective STEM teachers, particularly in high-need schools, by offering them additional compensation, instructional resources, and instructional leadership roles; and

“(3) creates a network of outstanding STEM teacher-leaders who will—

“(A) share best practices and resources;

“(B) take on leadership responsibilities in their schools, districts, States (if part of the participating area), or consortia with the authority to provide professional support to their STEM colleagues not participating in the STEM Master Teacher Corps;

“(C) aid in the development and retention of beginning teachers by serving as their role models and providing them with instructional support; and

“(D) inform the development of STEM education policy.

“SEC. 2156. DEFINITIONS.

“In this chapter:
“(1) ELIGIBLE ENTITY.—The term ‘eligible entity’ means a consortium of local educational agencies or 1 or more State educational agencies, acting in partnership with 1 or more—

“(A) institutions of higher education; or

“(B) nonprofit organizations with a demonstrated record of success in preparing or improving the effectiveness of STEM teachers.

“(2) HIGH-NEED SCHOOL.—The term ‘high-need school’ means a public school, which may be a public charter school, that meets 1 or more of the following criteria:

“(A) Not less than 40 percent of the students enrolled at the school—

“(i) receive or are eligible to receive a free or reduced price lunch under the Richard B. Russell National School Lunch Act (42 U.S.C. 1751 et seq.); or

“(ii) are from low-income families, as determined using 1 of the measures of poverty specified under section 1113(a)(5).

“(B) The school is among the lowest performing 10 percent of schools in the State in which it is located.
“(C) In the case of a public high school, the school has a graduation rate of 65 percent or less.

“(D) In the case of a public school containing middle grades, the school feeds into a public high school that has a graduation rate of 65 percent or less.

“(3) Participating area.—The term ‘participating area’ means—

“(A) in the case of an eligible entity that includes a State educational agency or consortium of State educational agencies, the State or States; or

“(B) in the case of an eligible entity that includes a consortium of local educational agencies, the area served by such agencies.

“(4) Rural school.—The term ‘rural school’ means a public school—

“(A) designated with a school locale code of Distant Town, Remote Town, Fringe Rural, Distant Rural, or Remote Rural; and

“(B) served by a local educational agency in which not less than two-thirds of the students served by the agency attend a school des-
ignated with 1 of the school locale codes listed in subparagraph (A).

“(5) STEM.—The term ‘STEM’ means science, technology, engineering, and mathematics.

“SEC. 2157. STEM MASTER TEACHER CORPS PROGRAM.

“(a) In General.—

“(1) Grants Authorized.—The Secretary, in consultation with the Director of the National Science Foundation and the heads of other appropriate Federal agencies, as determined by the Secretary, shall establish a STEM Master Teacher Corps program by awarding, on a competitive basis, 1 or more grants of not less than $15,000,000 each to eligible entities to enable the eligible entities to establish the program, in accordance with section 2159.

“(2) Planning Grants.—The Secretary may award planning grants to eligible entities to enable the entities to make plans to establish the program, in accordance with section 2159.

“(b) Duration of Grant.—

“(1) In General.—A grant awarded under this chapter shall be for a period of not more than 5 years.

“(2) Review.—The Secretary shall—
“(A) review, 3 years after an eligible entity is awarded a grant under this chapter, the performance of the entity during the 3-year period; and

“(B) fund the remaining grant period for such entity if the Secretary determines, based on such review, that the entity is achieving satisfactory results.

“(e) 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.

“(2) Exception.—

“(A) In general.—The Secretary may waive the 50 percent matching requirement under paragraph (1) for an eligible entity that the Secretary determines is unable to meet such requirement. The Secretary shall set a matching requirement for such eligible entities according to the sliding scale described in subparagraph (B).
“(B) Sliding Scale.—The amount of a match under subparagraph (A) shall be established based on a sliding fee scale that takes into account—

“(i) the relative poverty of the population to be targeted by the eligible entity; and

“(ii) the ability of the eligible entity to obtain such matching funds.

“(3) Consideration.—The Secretary shall not consider an eligible entity’s ability to match funds when determining which eligible entities will receive grant awards under this chapter.

“SEC. 2158. APPLICATION.

“(a) In General.—An eligible entity desiring a grant under this chapter shall submit an application to the Secretary at such time, in such manner, and containing such information as the Secretary may require.

“(b) Contents.—An application submitted under this section shall include—

“(1) a description of the STEM Master Teacher Corps program that the eligible entity intends to carry out, including the number of Corps members the entity intends to select, the intended distribution of subjects and grade levels taught, the geographic
and economic characteristics of the local educational agencies that are part of the participating area, such as the rural-urban continuum codes and proportion of high-need schools served, and the type of activities 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;

“(4) a description of the member selection process and criteria that the applicant will use to select members of the STEM Master Teacher Corps, in accordance with section 2159(b);

“(5) a description of how the eligible entity intends to facilitate networking and sharing of best practices and educational resources relating to STEM education among Corps members, particularly at rural schools, if applicable, and make a selection 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 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 consortium;

“(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 al-
ready 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 will be financially managed.

“(e) CRITERIA FOR AWARDING GRANTS.—

“(1) IN GENERAL.—The Secretary shall award grants under this chapter on the basis of merit considering, 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 con-

sortia, in addition to their classroom duties, in-

cluding assisting in the development and imple-

mentation of professional development activities

and driving the instructional program of the

school.

“(B) The quality of the proposed profes-

sional development, teacher leadership and

mentorship activities, and networking opportu-

nities.

“(C) Demonstration that the local edu-

cational agencies and schools they serve have

removed barriers to full participation in the

program, including affording Corps members

and the teachers they mentor the time to par-

ticipate in activities required by the program.

“(D) The number and quality of the indi-

viduals that will be served by the program.

“(E) The capacity of the eligible entity to
effectively carry out the program.

“(2) PRIORITY.—In awarding grants under this
“(A) eligible entities that intend to include large numbers of teachers in the STEM Master Teacher Corps; and
“(B) eligible entities that intend to include rural schools, particularly high-need rural schools, in the participating area to be served.

“SEC. 2159. REQUIRED USE OF FUNDS.
“(a) IN GENERAL.—An eligible entity receiving a grant under this chapter shall use grant funds to—
“(1) administer the selection of teachers for membership in the STEM Master Teacher Corps, in accordance with the requirements of subsection (b);
“(2) provide compensation to each public school teacher who is selected and serves as a member of the STEM Master Teacher Corps, in recognition of the teacher’s teaching accomplishments, leadership, and increased responsibilities, which amount shall—
“(A) supplement, and not supplant, the teacher’s base salary; and
“(B) be equal to—
“(i) in the case of a teacher who teaches at a high-need public school, including a high-need charter school, $15,000 per year for each year the teacher serves as a member of the Corps; and
“(ii) in the case of a teacher who teaches at a public school, including a charter school, that is not a high-need school, $5,000 per year for each year the teacher serves as a member of the Corps;

“(3) provide research-based professional development activities for members of the STEM Master Teacher Corps, as described in subsection 2158(b)(6), and track the effectiveness of such professional development in order to determine whether to alter professional development activities;

“(4) provide discretionary resources for STEM Master Teacher Corps members at high-need public schools to use in their classrooms and schools, including for afterschool activities, to enrich STEM education and to facilitate long-distance networking, mentoring, and sharing of best practices, including equipment and technology;

“(5) assist in coordinating instructional leadership roles for STEM Master Teacher Corps members and mentoring relationships between STEM Master Teacher Corps members and other teachers in the same school, school district, State, if part of the participating area, or consortium in which the Corps members serve as instructional leaders;
“(6) facilitate efforts by STEM Master Teacher Corps members to inform STEM education policy at the national, State, and local levels;

“(7) help defray costs associated with affording STEM Master Teacher Corps members the time to fulfill their duties as Corps members; and

“(8) support other activities that advance the purpose of this chapter.

“(b) SELECTING MEMBERS OF THE STEM MASTER TEACHER CORPS.—

“(1) SELECTION CRITERIA FOR CORPS MEMBERS.—The eligible entity shall select, as members of the STEM Master Teacher Corps, exemplary STEM teachers at the elementary school and secondary school levels who teach in the participating area, which may also include special education teachers and teachers of English language learners who teach a STEM subject. In selecting the members, the eligible entity shall—

“(A) make decisions based on the teacher’s—

“(i) ability to improve student academic achievement in the STEM fields, as demonstrated by, if applicable, student academic growth in such fields;
“(ii) ability to enhance student engagement in such fields;

“(iii) record of leadership in the teacher’s school and involvement in professional and outreach activities;

“(iv) record of teaching students not on grade level or not on track to graduate college and career ready; and

“(v) demonstrated ability to facilitate student academic achievement growth with the students described in clause (iv), where such measures are available; and

“(B) evaluate the teacher’s ability and record based on multiple measures, such as—

“(i) teacher evaluations of pedagogical skills;

“(ii) an assessment of content knowledge;

“(iii) the performance and improvement of the teacher’s students on tests;

“(iv) demonstration of practical professional experience in the teacher’s discipline, such as having worked in industry or research;
“(v) involvement in STEM discipline professional societies;
“(vi) STEM outreach and community involvement; and
“(vii) certification by the National Board for Professional Teaching Standards, or other similar certification, as a high-performing teacher.

“(2) OVERALL CORPS MEMBERSHIP REQUIREMENTS.—An eligible entity receiving a grant under this chapter shall ensure that—

“(A) not more than 5 percent of the STEM teachers who teach in the participating area are members of the Corps;
“(B) not less than 75 percent of the STEM Master Teacher Corps members are teachers at high-need schools;
“(C) the proportion of STEM Master Teacher Corps members in the participating area who teach at rural high-need schools is not less than the proportion of all teachers who teach at rural high-need schools in the participating area;
“(D) there are multiple cohorts of STEM Master Teacher Corps members; and
“(E) the STEM Master Teacher Corps includes teachers from each of science, technology, engineering, and mathematics, if teachers from each of these disciplines meeting the standards of Corps membership are available in the participating area.

“(3) PARTICIPATION OF PRIVATE SCHOOL TEACHERS.—An eligible entity may select STEM teachers who teach at private schools in the participating area to be members of the STEM Master Teacher Corps, except that—

“(A) not more than 5 percent of teachers selected as STEM Master Teacher Corps members shall be teachers at private schools; and

“(B) private school teachers shall not be eligible for compensation described in subsection (a)(2), discretionary resource funds described in subsection (a)(4), or for defrayment funds described in subsection (a)(7).

“(c) CORPS MEMBER REQUIREMENTS.—Each teacher selected to be a member of the STEM Master Teacher Corps who wishes to join the Corps shall enter into an agreement with the eligible entity, under which the teacher shall, as a condition of receiving the compensation described in subsection (a)(2) and the discretionary re-
sources described in subsection (a)(4), agree to carry out
the responsibilities of a master teacher as required by the
eligible entity, including—

“(1) participating in professional development
activities offered by the program;

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

“(3) contributing to the professional develop-
ment 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 de-
scribed 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—

“(i) the entity finds the teacher not in compliance with the Corps member requirements described in subsection (c) and the entity determines the teacher should no longer be a member of the Corps for such year; or

“(ii) the teacher withdraws during such year from membership in the Corps without an accepted excuse, as determined by the eligible entity.

“(B) COMPENSATION RETURNED TO THE TREASURY.—

“(i) IN GENERAL.—Except as provided in clause (ii), an eligible entity that receives repaid compensation under subparagraph (A) shall return such compensation to the United States Treasury.

“(ii) ADMINISTRATIVE COSTS.—An eligible entity that receives repaid compensation under subparagraph (A) may retain a
percentage, determined by the Secretary, of such repayment to defray administrative costs associated with the collection.

**SEC. 2160. REPORT AND EVALUATION.**

“(a) Administrative and Reporting Costs.—Of the amounts appropriated for this chapter for any fiscal year, the Secretary may use not more than 6 percent of the funds appropriated for such fiscal year for administrative costs and report and evaluation costs under this section, except that the Secretary may use not more than 3 percent of the funds appropriated for such fiscal year for administrative costs.

“(b) Reports to the Secretary.—

“(1) In general.—Each eligible entity receiving a grant under this chapter shall provide an annual report to the Secretary that—

“(A) summarizes the activities assisted under the grant and program outcomes; and

“(B) includes, with respect to each member of the STEM Master Teacher Corps, the following:

“(i) The name of the member.

“(ii) The school at which the member teaches and the location of such school.
“(iii) The subject area the teacher teaches.

“(iv) The grade level the teacher teaches.

“(2) PUBLICATION.—Each eligible entity receiving a grant under this chapter shall publicize the information described in paragraph (1)(B).

“(c) IES Evaluation.—The Secretary, acting through the Director of the Institute of Education Sciences, shall—

“(1) evaluate the implementation and impact of the program under this chapter, particularly with regard to the program’s success in achieving the purpose described in section 2155;

“(2) identify optimal strategies for the design, implementation, and continuing development of the STEM Master Teacher Corps program; and

“(3) identify best practices for developing, supporting, and retaining STEM teachers based on lessons learned from the program.

“(d) Dissemination.—The Secretary shall disseminate findings from the evaluation conducted under subsection (c) to the STEM education field and make the findings publicly available.
“(e) Reports to Congress.—Not later than 4 years after the establishment of the program under this chapter, and not later than 2 years thereafter, the Secretary shall prepare and submit to the Committee on Education and the Workforce and the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Health, Education, Labor, and Pensions of the Senate, a report that summarizes—

“(1) the activities assisted under the program under this chapter;

“(2) the outcomes of the program; and

“(3) any recommendations regarding changes to, the termination of, or the continuation and expansion of the program.

“SEC. 2161. AUTHORIZATION OF APPROPRIATIONS.

“There are authorized to be appropriated to carry out this chapter $35,000,000 for fiscal year 2012 and such sums as may be necessary for each of the 4 succeeding fiscal years.”.