

**SENATE, No. 1181**

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**STATE OF NEW JERSEY**  
**217th LEGISLATURE**

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INTRODUCED FEBRUARY 8, 2016

**Sponsored by:**

**Senator DIANE B. ALLEN**

**District 7 (Burlington)**

**SYNOPSIS**

Establishes the four-year “New Jersey Innovation Inspiration School Grant Pilot Program” in DOE to fund non-traditional Science, Technology, Engineering and Mathematics (STEM) programs.

**CURRENT VERSION OF TEXT**

As introduced.



1 AN ACT establishing the “New Jersey Innovation Inspiration School  
2 Grant Pilot Program” in the Department of Education.

3

4 **BE IT ENACTED** *by the Senate and General Assembly of the State*  
5 *of New Jersey:*

6

7 1. This act shall be known and may be cited as the “New Jersey  
8 Innovation Inspiration School Grant Pilot Program Act.”

9

10 2. The Legislature finds and declares that:

11 a. A 2011 report on STEM (science, technology, engineering,  
12 and mathematics) jobs by the Georgetown University Center on  
13 Education and the Workforce indicates that New Jersey will  
14 demand a total of 248,250 STEM jobs by 2018, up from 223,190 in  
15 2008, and about 93% of the predicted jobs will require  
16 postsecondary education and training;

17 b. According to the National Science Board’s 2010 Science and  
18 Engineering Indicators, only 5% of American college graduates  
19 major in engineering, whereas in Asia about 20% of all  
20 baccalaureate degrees are in engineering and in China about 33% of  
21 all baccalaureate degrees are in engineering;

22 c. Although 4th graders in the United States score well against  
23 international competition, students in the United States fall near the  
24 bottom or dead last by 12th grade in mathematics and science,  
25 respectively;

26 d. Admissions requirements for undergraduate engineering  
27 schools include a solid background in mathematics (algebra,  
28 geometry, trigonometry, and calculus) and science (biology,  
29 chemistry, and physics), in addition to courses in English, social  
30 studies, and the humanities;

31 e. According to the Bureau of Labor Statistics, overall  
32 engineering employment is expected to grow by 11% from 2008  
33 through 2018, and as a group, engineers earn some of the highest  
34 average starting salaries among individuals holding baccalaureate  
35 degrees;

36 f. Exposure to project- and problem-based learning in a  
37 competitive team environment gives students in grades 9 through 12  
38 the skills they need to be successful in engineering programs of  
39 study and engineering careers; and

40 g. According to Brandeis University’s Center for Youth and  
41 Communities, participants in FIRST Robotics, a non-profit  
42 organization that inspires young people to be science and  
43 technology leaders by engaging the young people in mentor-based  
44 programs, are more likely than nonparticipants to attend an  
45 institution of higher education on a full-time basis (88% versus  
46 53%), nearly twice as likely to major in a science or engineering  
47 field, and more than three times as likely to have majored  
48 specifically in engineering.

1       3. As used in this act:

2       “Low-income student” means a student who qualifies for free or  
3 reduced price lunch under the federal school lunch program.

4       “Non-traditional STEM teaching method” means a STEM  
5 education method or strategy such as incorporating self-directed  
6 student learning, inquiry-based learning, cooperative learning in  
7 small groups, collaboration with mentors in the field of study, and  
8 participation in STEM-related competitions.

9       “STEM” means science, technology, engineering (including  
10 robotics), or mathematics.

11

12       4. The Commissioner of Education shall develop and  
13 administer the four-year New Jersey Innovation Inspiration School  
14 Grant Pilot Program. The purpose of the pilot program shall be to  
15 award grants to school districts to:

16       a. support non-traditional STEM teaching methods for students  
17 in grades 4 through 12;

18       b. support the participation of students in nonprofit STEM  
19 competitions;

20       c. foster innovation and broaden interest in, and access to,  
21 careers in the STEM fields by investing in programs supported by  
22 teachers and professional mentors; and

23       d. encourage collaboration among students, engineers, and  
24 other professional mentors.

25       The grants shall be allocated to school districts on a competitive  
26 basis.

27

28       5. a. A school district that wants to apply for a grant under the  
29 pilot program shall submit an application to the commissioner. The  
30 application shall, at the minimum, include a description of how the  
31 school district will:

32       (1) implement STEM teaching programs that use a non-  
33 traditional STEM teaching method;

34       (2) identify and recruit partners and mentors to help implement  
35 the programs, and to assist students who participate in STEM  
36 programs, including through the use of technology;

37       (3) support teachers who lead the STEM programs, and  
38 participants in the programs, through stipends or other incentives;

39       (4) recruit young women and students from other populations  
40 historically underrepresented in the STEM fields to participate in  
41 the programs;

42       (5) identify public and private partners that can support the  
43 programs with cash or in-kind contributions;

44       (6) develop a plan for sustaining the programs financially  
45 beyond the grant period; and

46       (7) develop a method to evaluate the impact of the STEM  
47 teaching programs on participating students that includes:

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- 1 (a) comparing students who participate in the program to similar  
2 students who do not participate; and
- 3 (b) evaluating the program's impact on the number of students  
4 taking advanced STEM-related high school classes, the ability of  
5 participating students to partner with professional mentors, the  
6 district's high school graduation rate, and the rate of enrollment of  
7 district students in institutions of higher education upon graduation.
- 8 b. The commissioner shall award a one-time, up-front grant not  
9 to exceed \$150,000 to each of six qualifying school districts to be  
10 used to implement the pilot program. The grant funds may be used  
11 by the school district for a period of up to four years. The  
12 commissioner shall award the grants as follows: two grants shall be  
13 awarded to school districts located in Warren, Sussex, Passaic,  
14 Bergen, Morris, Essex, or Hudson Counties; two grants shall be  
15 awarded to school districts located in Hunterdon, Somerset, Union,  
16 Middlesex, Mercer, or Monmouth Counties; and two grants shall be  
17 awarded to school districts located in Atlantic, Burlington, Camden,  
18 Cape May, Cumberland, Gloucester, Ocean, or Salem Counties.
- 19 In awarding grants under the pilot program, the commissioner  
20 shall give priority to applications from school districts that propose  
21 to carry out activities that target:
- 22 (1) a rural or urban school;  
23 (2) a low-performing school; or  
24 (3) a school or school district that serves low-income students.
- 25 c. A school district that receives a grant may use the grant  
26 funds for any of the following:
- 27 (1) the promotion of STEM education and career activities;  
28 (2) the purchase of supplies needed to support participation in  
29 non-traditional STEM teaching programs, such as robotics;  
30 (3) to provide incentives and stipends for teachers involved in  
31 non-traditional STEM teaching methods outside of their regular  
32 teaching duties;  
33 (4) to provide support and finance the expenses of student  
34 participation in regional and national nonprofit STEM competitions;  
35 (5) to finance items such as equipment, facility use, technology,  
36 broadband access, and other expenses, directly associated with non-  
37 traditional STEM teaching and mentoring; and  
38 (6) to carry out other activities that are related to the goals of the  
39 pilot program.
- 40 d. A school district that receives a grant under the pilot  
41 program shall provide district matching funds in an amount equal to  
42 25% of the grant amount. The district shall also secure matching  
43 funds or in-kind contributions from corporate donors or other  
44 private sector donors in an amount equal to 25% of the grant  
45 amount. The matching funds shall be used by the district to support  
46 the STEM-related activities outlined in the application submitted to  
47 the commissioner for grant funds.

1 e. Grant funds provided to a school district shall be used to  
2 supplement, and not supplant, funds used for STEM activities in the  
3 district at the time of the application for the grant.

4

5 6. a. There is established within the Department of Education a  
6 fund to be known as the “Innovation Inspiration School Grant  
7 Fund,” hereinafter referred to as the “fund.” The fund shall be used  
8 to provide grants to school districts under the pilot program.

9 b. The fund shall be annually credited with money appropriated  
10 by the Legislature, any moneys received by the State from corporate  
11 donors or other private sector support, and any federal funds which  
12 may become available for STEM-related activities.

13 c. The department shall seek to secure the use of such funds or  
14 other resources from the federal government or private nonprofit or  
15 for-profit sources to effectuate the purposes of this act as may be  
16 available therefor.

17

18 7. No State funds shall be used to support a grant under the  
19 pilot program unless there is an appropriation for the pilot program  
20 in the annual appropriations act for that fiscal year.

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22 8. This act shall first take effect in the 2016-2017 school year,  
23 but the Commissioner of Education may take such anticipatory  
24 administrative action in advance thereof as shall be necessary for  
25 the implementation of this act.

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STATEMENT

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30 This bill establishes the four-year “New Jersey Innovation  
31 Inspiration School Grant Pilot Program” in the Department of  
32 Education. The pilot program will award grants to school districts to  
33 support non-traditional STEM (science, technology, engineering, and  
34 mathematics) teaching methods for students in grades 4 through 12,  
35 support the participation of students in nonprofit STEM competitions,  
36 foster innovation and broaden interest in careers in STEM fields, and  
37 encourage collaboration among students, engineers, and professional  
38 mentors.

39 Under the bill, a school district may submit to the Commissioner of  
40 Education an application that includes a description of how the school  
41 district will establish STEM teaching programs that use a non-  
42 traditional STEM teaching method, identify and recruit partners and  
43 mentors to help implement these programs, and support teachers and  
44 participants. The application also will contain information on how the  
45 district will assess the impact of the STEM teaching programs on  
46 participating students.

47 Under the pilot program, the commissioner will award a total of six  
48 one-time, up-front grants of up to \$150,000 each. Of the grants

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1 awarded: two will be awarded to districts located in the northern  
2 region of the State, two will be awarded to districts in the central  
3 region, and two will be awarded to districts in the southern region. In  
4 awarding the grants, the commissioner will give priority to  
5 applications from districts that intend to target activities in a rural or  
6 urban school, a low-performing school, or a school or school district  
7 that serves low-income students. The districts will be permitted to use  
8 the grant funds for a period of up to four years.

9 A school district that receives a grant must use the funds to:  
10 promote STEM education and career activities; purchase supplies  
11 needed for participation in non-traditional STEM teaching programs;  
12 finance the expenses of student participation in regional and national  
13 nonprofit STEM competitions; and provide incentives and stipends for  
14 teachers involved in non-traditional STEM teaching methods outside  
15 of their regular teaching duties.

16 The bill establishes the “Innovation Inspiration School Grant  
17 Fund” within the Department of Education to provide grants to school  
18 districts under the pilot program. A school district that receives a  
19 grant will provide district matching funds in an amount equal to 25%  
20 of the grant amount. In addition, the district must secure matching  
21 funds or in-kind contributions from corporate donors or other private  
22 sector donors in an amount equal to 25% of the grant amount.

23 Under the bill, State funds will not be used to support grants under  
24 the pilot program unless there is an appropriation for the pilot program  
25 in the annual appropriations act.