

110TH CONGRESS  
1ST SESSION

# H. R. 4165

To provide grants to encourage and enhance the study of modeling and simulation at institutions of higher education.

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## IN THE HOUSE OF REPRESENTATIVES

NOVEMBER 13, 2007

Mr. SCOTT of Virginia (for himself, Mr. FORBES, Mr. ORTIZ, Mrs. DRAKE, and Mr. KELLER of Florida) introduced the following bill; which was referred to the Committee on Education and Labor

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## A BILL

To provide grants to encourage and enhance the study of modeling and simulation at institutions of higher 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. MODELING AND SIMULATION PROGRAMS.**

4 The Higher Education Act of 1965 (20 U.S.C. 1001  
5 et seq.) is amended by adding at the end the following  
6 new title:

7 **“TITLE VIII—ADDITIONAL**  
8 **PROGRAMS**

9 **“SEC. 801. MODELING AND SIMULATION PROGRAMS.**

10 **“(a) PURPOSE; DEFINITION.—**

1           “(1) PURPOSE.—The purpose of this section is  
2           to promote the study of modeling and simulation at  
3           institutions of higher education, through the collabo-  
4           ration with new and existing programs, and specifi-  
5           cally to promote the use of technology in such study  
6           through the creation of accurate models that can  
7           simulate processes or recreate real life, by—

8                   “(A) establishing a task force at the De-  
9                   partment of Education to raise awareness of  
10                  and define the study of modeling and simula-  
11                  tion;

12                  “(B) provide grants to institutions of high-  
13                  er education to develop new modeling and sim-  
14                  ulation degree programs; and

15                  “(C) create grants for institutions of high-  
16                  er education to enhance existing modeling and  
17                  simulation degree programs.

18           “(2) DEFINITION.—In this section, the term  
19           ‘modeling and simulation’ means a field of study re-  
20           lated to the application of computer science and  
21           mathematics to develop a level of understanding of  
22           the interaction of the parts of a system and of a sys-  
23           tem as a whole.

24           “(b) ESTABLISHMENT OF TASKFORCE.—

1           “(1) IN GENERAL.—Subject to the availability  
2 of appropriations, the Secretary shall establish a  
3 taskforce within the Department of Education to  
4 study modeling and simulation and to support the  
5 development of the modeling and simulation field.  
6 The activities of such taskforce shall include—

7           “(A) helping to define the study of mod-  
8 eling and simulation (including the content of  
9 modeling and simulation classes and programs);

10           “(B) identifying best practices for such  
11 study;

12           “(C) identifying core knowledge and skills  
13 that individuals who participate in modeling  
14 and simulation programs should acquire; and

15           “(D) providing recommendations to the  
16 Secretary with respect to—

17           “(i) the information described in sub-  
18 paragraphs (A) through (C); and

19           “(ii) a system by which grants under  
20 this section will be distributed.

21           “(2) TASKFORCE MEMBERSHIP.—The member-  
22 ship of the taskforce under this subsection shall be  
23 composed of representatives from—

1           “(A) institutions of higher education with  
2           established modeling and simulation degree pro-  
3           grams;

4           “(B) the National Science Foundation;

5           “(C) Federal Government agencies that  
6           use modeling and simulation extensively, includ-  
7           ing the Department of Defense, the National  
8           Institute of Health, the Department of Home-  
9           land Security, the Department of Health and  
10          Human Services, the Department of Energy,  
11          and the Department of Transportation;

12          “(D) private industries with a primary  
13          focus on modeling and simulation; and

14          “(E) national modeling and simulation or-  
15          ganizations.

16          “(c) ENHANCING MODELING AND SIMULATION AT  
17          INSTITUTIONS OF HIGHER EDUCATION.—

18                 “(1) ENHANCEMENT GRANTS AUTHORIZED.—

19                 “(A) IN GENERAL.—The Secretary is au-  
20                 thorized to award grants, on a competitive  
21                 basis, to eligible institutions to enhance mod-  
22                 eling and simulation degree programs at such  
23                 eligible institutions.

24                 “(B) DURATION OF GRANT.—A grant  
25                 awarded under this subsection shall be awarded

1 for a 3-year period, and such grant period may  
2 be extended for not more than 2 years if the  
3 Secretary determines that an eligible institution  
4 has demonstrated success in enhancing the  
5 modeling and simulation degree program at  
6 such eligible institution.

7 “(C) MINIMUM GRANT AMOUNT.—Subject  
8 to the availability of appropriations, a grant  
9 awarded to an eligible institution under this  
10 subsection shall not be for an amount less than  
11 \$750,000.

12 “(D) NON-FEDERAL SHARE.—Each eligible  
13 institution receiving a grant under this sub-  
14 section shall provide, from non-Federal sources,  
15 in cash or in kind, an amount equal to 25 per-  
16 cent of the amount of the grant to carry out the  
17 activities supported by the grant. The Secretary  
18 may waive the non-Federal share requirement  
19 under this subparagraph for an eligible institu-  
20 tion if the Secretary determines a waiver to be  
21 appropriate based on the financial ability of the  
22 institution.

23 “(2) ELIGIBLE INSTITUTIONS.—For the pur-  
24 poses of this subsection, an eligible institution is an  
25 institution of higher education that—

1           “(A) has an established modeling and sim-  
2           ulation degree program, including a major,  
3           minor, or career-track program; or

4           “(B) has an established modeling and sim-  
5           ulation certificate or concentration program.

6           “(3) APPLICATION.—To be considered for a  
7           grant under this subsection, an eligible institution  
8           shall submit to the Secretary an application at such  
9           time, in such manner, and containing such informa-  
10          tion as the Secretary may require. Such application  
11          shall include—

12           “(A) a letter from the President or provost  
13           of the eligible institution that demonstrates the  
14           institution’s commitment to the enhancement of  
15           the modeling and simulation program at the in-  
16           stitution of higher education;

17           “(B) identification of designated faculty  
18           responsible for the enhancement of the institu-  
19           tion’s modeling and simulation program; and

20           “(C) a detailed plan for how the grant  
21           funds will be used to enhance the modeling and  
22           simulation program of the institution.

23           “(4) USES OF FUNDS.—A grant awarded under  
24           this subsection shall be used by an eligible institu-  
25           tion to carry out the plan developed in accordance

1 with paragraph (3)(C) to enhance modeling and sim-  
2 ulation programs at the institution, which may in-  
3 clude—

4 “(A) in the case of an institution that is el-  
5 ible under paragraph (2)(B), activities to as-  
6 sist in the establishment of a major, minor, or  
7 career-track modeling and simulation program  
8 at the eligible institution;

9 “(B) expanding the multi-disciplinary na-  
10 ture of the institution’s modeling and simula-  
11 tion programs;

12 “(C) recruiting students into the field of  
13 modeling and simulation through the provision  
14 of fellowships or assistantships;

15 “(D) creating new courses to compliment  
16 existing courses and reflect emerging develop-  
17 ments in the modeling and simulation field;

18 “(E) conducting research to support new  
19 methodologies and techniques in modeling and  
20 simulation; and

21 “(F) purchasing equipment necessary for  
22 modeling and simulation programs.

23 “(d) ESTABLISHING MODELING AND SIMULATION  
24 PROGRAMS.—

25 “(1) ESTABLISHMENT GRANTS AUTHORIZED.—

1           “(A) IN GENERAL.—The Secretary is au-  
2           thorized to award grants to institutions of high-  
3           er education to establish a modeling and sim-  
4           ulation program, including a major, minor, ca-  
5           reer-track, certificate, or concentration pro-  
6           gram.

7           “(B) DURATION OF GRANT.—A grant  
8           awarded under this subsection shall be awarded  
9           for a 3-year period, and such grant period may  
10          be extended for not more than 2 years if the  
11          Secretary determines that an eligible institution  
12          has demonstrated success in establishing a  
13          modeling and simulation degree program at  
14          such eligible institution.

15          “(C) MINIMUM GRANT AMOUNT.—Subject  
16          to the availability of appropriations, a grant  
17          awarded to an eligible institution under this  
18          subsection shall not be for an amount less than  
19          \$750,000.

20          “(D) NON-FEDERAL SHARE.—Each eligible  
21          institution receiving a grant under this sub-  
22          section shall provide, from non-Federal sources,  
23          in cash or in kind, an amount equal to 25 per-  
24          cent of the amount of the grant to carry out the  
25          activities supported by the grant. The Secretary

1           may waive the non-Federal share requirement  
2           under this subparagraph for an eligible institu-  
3           tion if the Secretary determines a waiver to be  
4           appropriate based on the financial ability of the  
5           institution.

6           “(2) APPLICATION.—To apply for a grant  
7           under this subsection, an eligible institution shall  
8           submit to the Secretary an application at such time,  
9           in such manner, and containing such information as  
10          the Secretary may require. Such application shall in-  
11          clude—

12                   “(A) a letter from the President or provost  
13                   of the eligible institution that demonstrates the  
14                   institution’s commitment to the establishment  
15                   of a modeling and simulation program at the  
16                   institution of higher education;

17                   “(B) a detailed plan for how the grant  
18                   funds will be used to establish a modeling and  
19                   simulation program at the institution; and

20                   “(C) a description of how the modeling  
21                   and simulation program established under this  
22                   subsection will complement existing programs  
23                   and fit into the institution’s current program  
24                   and course offerings.

1           “(3) USES OF FUNDS.—A grant awarded under  
2 this subsection may be used by an eligible institution  
3 to—

4           “(A) establish, or work toward the estab-  
5 lishment of, a modeling and simulation pro-  
6 gram, including a major, minor, career-track,  
7 certificate, or concentration program at the eli-  
8 gible institution;

9           “(B) provide adequate staffing to ensure  
10 the successful establishment of the modeling  
11 and simulation program, which may include the  
12 assignment of full-time dedicated or supportive  
13 faculty; and

14           “(C) purchasing equipment necessary for a  
15 modeling and simulation program.

16       “(e) AUTHORIZATION OF APPROPRIATIONS.—There  
17 is authorized to be appropriated to carry out this section  
18 \$40,000,000 for fiscal year 2009 and such sums as may  
19 be necessary for each of the 4 succeeding fiscal years. Of  
20 the amounts authorized to be appropriated for each fiscal  
21 year—

22           “(1) \$1,000,000 is authorized to carry out the  
23 activities of the task force established pursuant to  
24 subsection (b); and

1           “(2) of the amount remaining after the alloca-  
2           tion for paragraph (1)—

3           “(A) 50 percent is authorized to carry out  
4           the grant program under subsection (c); and

5           “(B) 50 percent is authorized to carry out  
6           the grant program under subsection (d).”.

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