

Calendar No. 70110TH CONGRESS
1ST SESSION**S. 761**

To invest in innovation and education to improve the competitiveness of
the United States in the global economy.

IN THE SENATE OF THE UNITED STATES

MARCH 5, 2007

Mr. REID (for himself, Mr. McCONNELL, Mr. BINGAMAN, Mr. DOMENICI, Mr. INOUE, Mr. STEVENS, Mr. KENNEDY, Mr. ENZI, Mr. LIEBERMAN, Mr. ENSIGN, Ms. MIKULSKI, Mr. ALEXANDER, Mr. NELSON of Florida, Mrs. HUTCHISON, Mr. KERRY, Mr. SMITH, Mr. MENENDEZ, Mr. ROBERTS, Mr. SALAZAR, Mr. CORNYN, Mr. PRYOR, Mr. COLEMAN, Ms. CANTWELL, Mr. MARTINEZ, Mr. CARPER, Ms. MURKOWSKI, Mrs. CLINTON, Mr. CRAIG, Mr. KOHL, Mr. LUGAR, Mr. BROWN, Mr. VOINOVICH, Mr. ROCKEFELLER, Mr. WARNER, Ms. LANDRIEU, Mr. OBAMA, Mr. DURBIN, and Mrs. FEINSTEIN) introduced the following bill; which was read the first time

MARCH 6, 2007

Read the second time and placed on the calendar

A BILL

To invest in innovation and education to improve the
competitiveness of the United States in the global economy.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “America COMPETES
3 Act” or the “America Creating Opportunities to Meaning-
4 fully Promote Excellence in Technology, Education, and
5 Science Act”.

6 **SEC. 2. ORGANIZATION OF ACT INTO DIVISIONS; TABLE OF**
7 **CONTENTS.**

8 (a) DIVISIONS.—This Act is organized into 4 divi-
9 sions as follows:

10 (1) DIVISION A.—Commerce and Science.

11 (2) DIVISION B.—Department of Energy.

12 (3) DIVISION C.—Education.

13 (4) DIVISION D.—National Science Foundation.

14 (b) TABLE OF CONTENTS.—The table of contents for
15 this Act is as follows:

Sec. 1. Short title.

Sec. 2. Organization of Act into divisions; table of contents.

DIVISION A—COMMERCE AND SCIENCE

Sec. 1001. Short title.

TITLE I—OFFICE OF SCIENCE AND TECHNOLOGY POLICY;
GOVERNMENT-WIDE SCIENCE

Sec. 1101. National Science and Technology Summit.

Sec. 1102. Study on barriers to innovation.

Sec. 1103. National Innovation Medal.

Sec. 1104. Release of scientific research results.

Sec. 1105. Semiannual Science, Technology, Engineering, and Mathematics
Days.

Sec. 1106. Study of service science.

TITLE II—INNOVATION PROMOTION

Sec. 1201. President’s Council on Innovation and Competitiveness.

Sec. 1202. Innovation acceleration research.

TITLE III—NATIONAL AERONAUTICS AND SPACE
ADMINISTRATION

- Sec. 1301. NASA's contribution to innovation.
- Sec. 1302. Aeronautics Institute for Research.
- Sec. 1303. Basic research enhancement.
- Sec. 1304. Aging workforce issues program.
- Sec. 1305. Conforming amendments.
- Sec. 1306. Fiscal year 2008 basic science and research funding.

TITLE IV—NATIONAL INSTITUTE OF STANDARDS AND
TECHNOLOGY

- Sec. 1401. Authorization of appropriations.
- Sec. 1402. Amendments to the Stevenson-Wydler Technology Innovation Act of 1980.
- Sec. 1403. Innovation acceleration.
- Sec. 1404. Manufacturing extension.
- Sec. 1405. Experimental Program to Stimulate Competitive Technology.
- Sec. 1406. Technical amendments to the National Institute of Standards and Technology Act and other technical amendments.

TITLE V—OCEAN AND ATMOSPHERIC PROGRAMS

- Sec. 1501. Ocean and atmospheric research and development program.
- Sec. 1502. NOAA ocean and atmospheric science education programs.

DIVISION B—DEPARTMENT OF ENERGY

- Sec. 2001. Short title.
- Sec. 2002. Definitions.
- Sec. 2003. Mathematics, science, and engineering education at the Department of Energy.
- Sec. 2004. Department of Energy early-career research grants.
- Sec. 2005. Advanced Research Projects Authority-Energy.
- Sec. 2006. Authorization of appropriations for the Department of Energy for basic research.
- Sec. 2007. Discovery science and engineering innovation institutes.
- Sec. 2008. Protecting America's Competitive Edge (PACE) graduate fellowship program.
- Sec. 2009. Title IX compliance.
- Sec. 2010. High-risk, high-reward research.
- Sec. 2011. Distinguished scientist program.

DIVISION C—EDUCATION

- Sec. 3001. Findings.
- Sec. 3002. Definitions.

TITLE I—TEACHER ASSISTANCE

Subtitle A—Teachers for a Competitive Tomorrow

- Sec. 3111. Purpose.
- Sec. 3112. Definitions.
- Sec. 3113. Programs for baccalaureate degrees in mathematics, science, engineering, or critical foreign languages, with concurrent teacher certification.

- Sec. 3114. Programs for master's degrees in mathematics, science, or critical foreign languages education.
- Sec. 3115. General provisions.
- Sec. 3116. Authorization of appropriations.

Subtitle B—Advanced Placement and International Baccalaureate Programs

- Sec. 3121. Purpose.
- Sec. 3122. Definitions.
- Sec. 3123. Advanced Placement and International Baccalaureate programs.

TITLE II—MATH NOW

- Sec. 3201. Math Now for elementary school and middle school students program.

TITLE III—FOREIGN LANGUAGE PARTNERSHIP PROGRAM

- Sec. 3301. Findings and purpose.
- Sec. 3302. Definitions.
- Sec. 3303. Program authorized.
- Sec. 3304. Authorization of appropriations.

TITLE IV—ALIGNMENT OF EDUCATION PROGRAMS

- Sec. 3401. Alignment of secondary school graduation requirements with the demands of 21st century postsecondary endeavors and support for P-16 education data systems.

DIVISION D—NATIONAL SCIENCE FOUNDATION

- Sec. 4001. Authorization of appropriations.
- Sec. 4002. Strengthening of education and human resources directorate through equitable distribution of new funds.
- Sec. 4003. Graduate fellowships and graduate traineeships.
- Sec. 4004. Professional science master's degree programs.
- Sec. 4005. Increased support for science education through the National Science Foundation.
- Sec. 4006. Meeting critical national science needs.
- Sec. 4007. Reaffirmation of the merit-review process of the National Science Foundation.
- Sec. 4008. Experimental Program to Stimulate Competitive Research.
- Sec. 4009. Encouraging participation.
- Sec. 4010. Cyberinfrastructure.
- Sec. 4011. Federal information and communications technology research.
- Sec. 4012. Robert Noyce Teacher Scholarship Program.
- Sec. 4013. Sense of the Senate regarding the mathematics and science partnership programs of the Department of Education and the National Science Foundation.
- Sec. 4014. National Science Foundation teacher institutes for the 21st century.

1 **DIVISION A—COMMERCE AND**
2 **SCIENCE**

3 **SEC. 1001. SHORT TITLE.**

4 This division may be cited as the “American Innova-
5 tion and Competitiveness Act”.

6 **TITLE I—OFFICE OF SCIENCE**
7 **AND TECHNOLOGY POLICY;**
8 **GOVERNMENT-WIDE SCIENCE**

9 **SEC. 1101. NATIONAL SCIENCE AND TECHNOLOGY SUMMIT.**

10 (a) **IN GENERAL.**—Not later than 180 days after the
11 date of enactment of this Act, the President shall convene
12 a National Science and Technology Summit to examine
13 the health and direction of the United States’ science and
14 technology enterprises. The Summit shall include rep-
15 resentatives of industry, small business, labor, academia,
16 State government, Federal research and development
17 agencies, non-profit environmental and energy policy
18 groups concerned with science and technology issues, and
19 other nongovernmental organizations.

20 (b) **REPORT.**—Not later than 90 days after the date
21 of the conclusion of the Summit, the President shall issue
22 a report on the results of the Summit. The report shall
23 identify key research and technology challenges and rec-
24 ommendations for areas of investment for Federal re-
25 search and technology programs to be carried out during

1 the 5-year period beginning on the date the report is
2 issued.

3 (c) ANNUAL EVALUATION.—Beginning in 2008, the
4 Director of the Office of Science and Technology Policy
5 shall publish and submit to Congress an annual report
6 that contains recommendations for areas of investment for
7 Federal research and technology programs, including a
8 justification for each area identified in the report. Each
9 report submitted during the 5-year period beginning on
10 the date of the conclusion of the Summit shall take into
11 account any recommendations made by the Summit.

12 **SEC. 1102. STUDY ON BARRIERS TO INNOVATION.**

13 (a) IN GENERAL.—Not later than 90 days after the
14 date of enactment of this Act, the Director of the Office
15 of Science and Technology Policy shall enter into a con-
16 tract with the National Academy of Sciences to conduct
17 and complete a study to identify, and to review methods
18 to mitigate, new forms of risk for businesses beyond con-
19 ventional operational and financial risk that affect the
20 ability to innovate, including studying and reviewing—

21 (1) incentive and compensation structures that
22 could effectively encourage long-term value creation
23 and innovation;

1 (2) methods of voluntary and supplemental dis-
2 closure by industry of intellectual capital, innovation
3 performance, and indicators of future valuation;

4 (3) means by which government could work
5 with industry to enhance the legal and regulatory
6 framework to encourage the disclosures described in
7 paragraph (2);

8 (4) practices that may be significant deterrents
9 to United States businesses engaging in innovation
10 risk-taking compared to foreign competitors;

11 (5) costs faced by United States businesses en-
12 gaging in innovation compared to foreign competi-
13 tors, including the burden placed on businesses by
14 high and rising health care costs;

15 (6) means by which industry, trade associa-
16 tions, and universities could collaborate to support
17 research on management practices and methodolo-
18 gies for assessing the value and risks of longer term
19 innovation strategies;

20 (7) means to encourage new, open, and collabo-
21 rative dialogue between industry associations, regu-
22 latory authorities, management, shareholders, labor,
23 and other concerned interests to encourage appro-
24 priate approaches to innovation risk-taking;

1 (8) incentives to encourage participation among
2 institutions of higher education, especially those in
3 rural and underserved areas, to engage in innova-
4 tion;

5 (9) relevant Federal regulations that may dis-
6 courage or encourage innovation;

7 (10) the extent to which Federal funding pro-
8 motes or hinders innovation; and

9 (11) the extent to which individuals are being
10 equipped with the knowledge and skills necessary for
11 success in the 21st century workforce, as measured
12 by—

13 (A) elementary school and secondary
14 school student academic achievement on the
15 State academic assessments required under sec-
16 tion 1111(b)(3) of the Elementary and Sec-
17 ondary Education Act of 1965 (20 U.S.C. 6311
18 (b)(3)), especially in mathematics, science, and
19 reading;

20 (B) the rate of student entrance into insti-
21 tutions of higher education by type of institu-
22 tion, and barriers to access to institutions of
23 higher education;

24 (C) the rates of—

1 (i) students successfully completing
2 postsecondary education programs; and

3 (ii) certificates, associate degrees, and
4 baccalaureate degrees awarded in the fields
5 of science, technology, engineering, and
6 mathematics; and

7 (D) access to, and availability of, high
8 quality job training programs.

9 (b) **REPORT REQUIRED.**—Not later than 1 year after
10 entering into the contract required by subsection (a) and
11 4 years after entering into such contract, the National
12 Academy of Sciences shall submit to Congress a report
13 on the study conducted under such subsection.

14 (c) **AUTHORIZATION OF APPROPRIATIONS.**—There
15 are authorized to be appropriated to the National Acad-
16 emy of Sciences \$1,000,000 for fiscal year 2008 for the
17 purpose of carrying out the study required under this sec-
18 tion.

19 **SEC. 1103. NATIONAL INNOVATION MEDAL.**

20 Section 16 of the Stevenson-Wydler Technology Inno-
21 vation Act of 1980 (15 U.S.C. 3711) is amended—

22 (1) by striking the section heading and insert-
23 ing “**SEC. 16. NATIONAL TECHNOLOGY AND IN-**
24 **NOVATION MEDAL.**”; and

1 (2) in subsection (a), by striking “Technology
2 Medal” and inserting “Technology and Innovation
3 Medal”.

4 **SEC. 1104. RELEASE OF SCIENTIFIC RESEARCH RESULTS.**

5 (a) PRINCIPLES.—Not later than 90 days after the
6 date of enactment of this Act, the Director of the Office
7 of Science and Technology Policy, in consultation with the
8 Director of the Office of Management and Budget and the
9 heads of all Federal civilian agencies that conduct sci-
10 entific research, shall develop and issue an overarching set
11 of principles to ensure the communication and open ex-
12 change of data and results to other agencies, policy-
13 makers, and the public of research conducted by a sci-
14 entist employed by a Federal civilian agency and to pre-
15 vent the intentional or unintentional suppression or distor-
16 tion of such research findings. The principles shall encour-
17 age the open exchange of data and results of research un-
18 dertaken by a scientist employed by such an agency and
19 shall be consistent with existing Federal laws, including
20 chapter 18 of title 35, United States Code (commonly
21 known as the “Bayh-Dole Act”).

22 (b) IMPLEMENTATION.—Not later than 180 days
23 after the date of enactment of this Act, the Director of
24 the Office of Science and Technology Policy shall ensure
25 that all civilian Federal agencies that conduct scientific

1 research develop specific policies and procedures regarding
2 the public release of data and results of research con-
3 ducted by a scientist employed by such an agency con-
4 sistent with the principles established under subsection
5 (a). Such polices and procedures shall—

6 (1) specifically address what is and what is not
7 permitted or recommended under such policies and
8 procedures;

9 (2) be specifically designed for each such agen-
10 cy;

11 (3) be applied uniformly throughout each such
12 agency; and

13 (4) be widely communicated and readily acces-
14 sible to all employees of each such agency and the
15 public.

16 **SEC. 1105. SEMIANNUAL SCIENCE, TECHNOLOGY, ENGI-**
17 **NEERING, AND MATHEMATICS DAYS.**

18 It is the sense of Congress that the Director of the
19 Office of Science and Technology Policy should—

20 (1) encourage all elementary and middle schools
21 to observe a Science, Technology, Engineering, and
22 Mathematics Day twice in every school year for the
23 purpose of bringing in science, technology, engineer-
24 ing, and mathematics mentors to provide hands-on
25 lessons to excite and inspire students to pursue the

1 science, technology, engineering, and mathematics
2 fields (including continuing education and career
3 paths);

4 (2) initiate a program, in consultation with
5 Federal agencies and departments, to provide sup-
6 port systems, tools (from existing outreach offices),
7 and mechanisms to allow and encourage Federal em-
8 ployees with scientific, technological, engineering, or
9 mathematical responsibilities to reach out to local
10 classrooms on such Science, Technology, Engineer-
11 ing, and Mathematics Days to instruct and inspire
12 school children, focusing on real life science, tech-
13 nology, engineering, and mathematics-related appli-
14 cable experiences along with hands-on demonstra-
15 tions in order to demonstrate the advantages and di-
16 rect applications of studying the science, technology,
17 engineering, and mathematics fields; and

18 (3) promote Science, Technology, Engineering,
19 and Mathematics Days involvement by private sector
20 and institutions of higher education employees in a
21 manner similar to the Federal employee involvement
22 described in paragraph (2).

23 **SEC. 1106. STUDY OF SERVICE SCIENCE.**

24 (a) SENSE OF CONGRESS.—It is the sense of Con-
25 gress that, in order to strengthen the competitiveness of

1 United States enterprises and institutions and to prepare
2 the people of the United States for high-wage, high-skill
3 employment, the Federal Government should better under-
4 stand and respond strategically to the emerging manage-
5 ment and learning discipline known as service science.

6 (b) STUDY.—Not later than 270 days after the date
7 of enactment of this Act, the Director of the Office of
8 Science and Technology Policy, through the National
9 Academy of Sciences, shall conduct a study and report to
10 Congress regarding how the Federal Government should
11 support, through research, education, and training, the
12 emerging management and learning discipline known as
13 service science.

14 (c) OUTSIDE RESOURCES.—In conducting the study
15 under subsection (b), the National Academy of Sciences
16 shall consult with leaders from 2- and 4-year institutions
17 of higher education, as defined in section 101(a) of the
18 Higher Education Act of 1965 (20 U.S.C. 1001(a)), lead-
19 ers from corporations, and other relevant parties.

20 (d) SERVICE SCIENCE DEFINED.—In this section,
21 the term “service science” means curricula, training, and
22 research programs that are designed to teach individuals
23 to apply scientific, engineering, and management dis-
24 ciplines that integrate elements of computer science, oper-
25 ations research, industrial engineering, business strategy,

1 management sciences, and social and legal sciences, in
2 order to encourage innovation in how organizations create
3 value for customers and shareholders that could not be
4 achieved through such disciplines working in isolation.

5 **TITLE II—INNOVATION** 6 **PROMOTION**

7 **SEC. 1201. PRESIDENT'S COUNCIL ON INNOVATION AND** 8 **COMPETITIVENESS.**

9 (a) IN GENERAL.—The President shall establish a
10 President's Council on Innovation and Competitiveness.

11 (b) DUTIES.—The Council's duties shall include—

12 (1) monitoring implementation of public laws
13 and initiatives for promoting innovation, including
14 policies related to research funding, taxation, immi-
15 gration, trade, and education that are proposed in
16 this Act or in any other Act;

17 (2) providing advice to the President with re-
18 spect to global trends in competitiveness and innova-
19 tion and allocation of Federal resources in edu-
20 cation, job training, and technology research and de-
21 velopment considering such global trends in competi-
22 tiveness and innovation;

23 (3) in consultation with the Director of the Of-
24 fice of Management and Budget, developing a proc-
25 ess for using metrics to assess the impact of existing

1 and proposed policies and rules that affect innova-
2 tion capabilities in the United States;

3 (4) identifying opportunities and making rec-
4 ommendations for the heads of executive agencies to
5 improve innovation, monitoring, and reporting on
6 the implementation of such recommendations;

7 (5) developing metrics for measuring the
8 progress of the Federal Government with respect to
9 improving conditions for innovation, including
10 through talent development, investment, and infra-
11 structure improvements; and

12 (6) submitting to the President and Congress
13 an annual report on such progress.

14 (c) MEMBERSHIP AND COORDINATION.—

15 (1) MEMBERSHIP.—The Council shall be com-
16 posed of the Secretary or head of each of the fol-
17 lowing:

18 (A) The Department of Commerce.

19 (B) The Department of Defense.

20 (C) The Department of Education.

21 (D) The Department of Energy.

22 (E) The Department of Health and
23 Human Services.

24 (F) The Department of Homeland Secu-
25 rity.

1 (G) The Department of Labor.

2 (H) The Department of the Treasury.

3 (I) The National Aeronautics and Space
4 Administration.

5 (J) The Securities and Exchange Commis-
6 sion.

7 (K) The National Science Foundation.

8 (L) The Office of the United States Trade
9 Representative.

10 (M) The Office of Management and Budg-
11 et.

12 (N) The Office of Science and Technology
13 Policy.

14 (O) The Environmental Protection Agency.

15 (P) Any other department or agency des-
16 igned by the President.

17 (2) CHAIRPERSON.—The Secretary of Com-
18 merce shall serve as Chairperson of the Council.

19 (3) COORDINATION.—The Chairperson of the
20 Council shall ensure appropriate coordination be-
21 tween the Council and the National Economic Coun-
22 cil, the National Security Council, and the National
23 Science and Technology Council.

24 (4) MEETINGS.—The Council shall meet on a
25 semi-annual basis at the call of the Chairperson and

1 the initial meeting of the Council shall occur not
2 later than 6 months after the date of enactment of
3 this Act.

4 (d) DEVELOPMENT OF INNOVATION AGENDA.—

5 (1) IN GENERAL.—The Council shall develop a
6 comprehensive agenda for strengthening the innova-
7 tion and competitiveness capabilities of the Federal
8 Government, State governments, academia, and the
9 private sector in the United States.

10 (2) CONTENTS.—The comprehensive agenda re-
11 quired by paragraph (1) shall include the following:

12 (A) An assessment of current strengths
13 and weaknesses of the United States investment
14 in research and development.

15 (B) Recommendations for addressing
16 weaknesses and maintaining the United States
17 as a world leader in research and development
18 and technological innovation.

19 (C) Recommendations for strengthening
20 the innovation and competitiveness capabilities
21 of the Federal government, State governments,
22 academia, and the private sector in the United
23 States.

24 (3) ADVISORS.—

1 (A) RECOMMENDATION.—Not later than
2 30 days after the date of enactment of this Act,
3 the National Academy of Sciences, in consulta-
4 tion with the National Academy of Engineering,
5 the Institute of Medicine, and the National Re-
6 search Council, shall develop and submit to the
7 President a list of 50 individuals that are rec-
8 ommended to serve as advisors to the Council
9 during the development of the comprehensive
10 agenda required by paragraph (1). The list of
11 advisors shall include appropriate representa-
12 tives from the following:

13 (i) The private sector of the economy.

14 (ii) Labor.

15 (iii) Various fields including informa-
16 tion technology, energy, engineering, high-
17 technology manufacturing, health care, and
18 education.

19 (iv) Scientific organizations.

20 (v) Academic organizations and other
21 nongovernmental organizations working in
22 the area of science or technology.

23 (B) DESIGNATION.—Not later than 30
24 days after the date that the National Academy
25 of Sciences submits the list of recommended in-

1 individuals to serve as advisors, the President
2 shall designate 50 individuals to serve as advi-
3 sors to the Council.

4 (C) REQUIREMENT TO CONSULT.—The
5 Council shall develop the comprehensive agenda
6 required by paragraph (1) in consultation with
7 the advisors.

8 (4) INITIAL SUBMISSION AND UPDATES.—

9 (A) INITIAL SUBMISSION.—Not later than
10 1 year after the date of enactment of this Act,
11 the Council shall submit to Congress and the
12 President the comprehensive agenda required
13 by paragraph (1).

14 (B) UPDATES.—At least once every 2
15 years, the Council shall update the comprehen-
16 sive agenda required by paragraph (1) and sub-
17 mit each such update to Congress and the
18 President.

19 (e) TECHNICAL AMENDMENT.—Section 101(b) of the
20 High-Performance Computing Act of 1991 (15 U.S.C.
21 5511(b)) is amended by striking “an” in the first sentence
22 and inserting “a distinct”.

23 (f) OPTIONAL ASSIGNMENT.—Notwithstanding sub-
24 section (a) and paragraphs (1) and (2) of subsection (c),

1 the President may designate an existing council to carry
2 out the requirements of this section.

3 **SEC. 1202. INNOVATION ACCELERATION RESEARCH.**

4 (a) PROGRAM ESTABLISHED.—The President,
5 through the head of each Federal research agency, shall
6 establish a program, to be known as the Innovation Accel-
7 eration Research Program, to support and promote inno-
8 vation in the United States through research projects that
9 can yield results with far-ranging or wide-ranging implica-
10 tions but are considered too novel or span too diverse a
11 range of disciplines to fare well in the traditional peer re-
12 view process. Priority in the awarding of grants under this
13 program shall be given to research projects that—

14 (1) meet fundamental technology or scientific
15 challenges;

16 (2) involve multidisciplinary work; and

17 (3) involve a high degree of novelty.

18 (b) DEPARTMENTS AND AGENCIES.—

19 (1) FUNDING GOALS.—The President shall en-
20 sure that it is the goal of each Executive agency (as
21 defined in section 105 of title 5, United States
22 Code) that finances research in science, mathe-
23 matics, engineering, and technology to allocate ap-
24 proximately 8 percent of the agency's total annual
25 research and development budget to funding re-

1 search, including grants, under the Innovation Accel-
2 eration Research Program.

3 (2) ADMINISTRATION.—

4 (A) IN GENERAL.—Not later than 90 days
5 after the date of enactment of this Act, the
6 head of each Executive agency participating in
7 the Innovation Acceleration Research Program
8 under paragraph (1) shall submit to the Direc-
9 tor of the Office of Science and Technology Pol-
10 icy and the Director of the Office of Manage-
11 ment and Budget a plan for implementing the
12 research program within such Executive agency.
13 An implementation plan may incorporate exist-
14 ing initiatives of the Executive agencies that
15 promote research in innovation as described in
16 subsection (a).

17 (B) REQUIRED METRICS.—

18 (i) IN GENERAL.—The head of each
19 Executive agency submitting an implemen-
20 tation plan pursuant to subparagraph (A)
21 shall include metrics upon which grant
22 funding decisions will be made and metrics
23 for assessing the success of the grants
24 awarded.

1 (ii) METRICS FOR BASIC RESEARCH.—

2 The metrics developed under clause (i) to
3 assess basic research programs shall assess
4 management of the programs and shall not
5 assess specific scientific outcomes of the
6 research conducted by the programs.

7 (C) GRANT DURATION AND RENEWALS.—

8 (i) IN GENERAL.—Any grants issued
9 by an Executive agency under this section
10 shall be for a period not to exceed 3 years.

11 (ii) EVALUATION.—Not later than 90
12 days prior to the expiration of a grant
13 issued under this section, the Executive
14 agency that approved the grant shall com-
15 plete an evaluation of the effectiveness of
16 the grant based on the metrics established
17 pursuant to subparagraph (B). In its eval-
18 uation, the Executive agency shall consider
19 the extent to which the program funded by
20 the grant met the goals of quality improve-
21 ment and job creation.

22 (iii) PUBLICATION OF REVIEW.—The
23 Executive agency shall publish and make
24 available to the public the review of each
25 grant approved pursuant to this section.

1 (iv) FAILURE TO MEET METRICS.—

2 Any grant that the Executive agency
3 awarding the grant determines has failed
4 to satisfy any of the metrics developed pur-
5 suant to subparagraph (B), shall not be el-
6 igible for a renewal.

7 (v) RENEWAL.—A grant issued under
8 this section that satisfies all of the metrics
9 developed pursuant to subparagraph (B),
10 may be renewed once for a period of not
11 more than 3 years. Additional renewals
12 may be considered only if the head of the
13 Executive agency makes a specific finding
14 that the program being funded involves a
15 significant technology or scientific advance
16 that requires a longer time frame to com-
17 plete critical research, and the research
18 satisfies all the metrics developed pursuant
19 to subparagraph (B).

20 (vi) WAIVER.—The head of the Exec-
21 utive agency may authorize a waiver of the
22 requirement of clauses (iv) and (v) related
23 to satisfying metric requirements if he or
24 she determines that the grant failed to
25 meet a small number of metrics and the

1 failure was not significant for the overall
2 performance of the grant.

3 (c) DEFINITIONS.—In this section:

4 (1) FEDERAL RESEARCH AGENCY.—The term
5 “Federal research agency” means a major organiza-
6 tional component of a department or agency of the
7 Federal Government, or other establishment of the
8 Federal Government operating with appropriated
9 funds, that has as its primary purpose the perform-
10 ance of scientific research.

11 (2) MAJOR ORGANIZATIONAL COMPONENT.—
12 The term “major organizational component”, with
13 respect to a department, agency, or other establish-
14 ment of the Federal Government, means a compo-
15 nent of the department, agency, or other establish-
16 ment that is administered by an individual whose
17 rate of basic pay is not less than the rate of basic
18 pay payable under level V of the Executive Schedule
19 under section 5316 of title 5, United States Code.

20 **TITLE III—NATIONAL AERO-**
21 **NAUTICS AND SPACE ADMIN-**
22 **ISTRATION**

23 **SEC. 1301. NASA’S CONTRIBUTION TO INNOVATION.**

24 (a) PARTICIPATION IN INTERAGENCY ACTIVITIES.—
25 The National Aeronautics and Space Administration shall

1 be a full participant in any interagency effort to promote
2 innovation and economic competitiveness through near-
3 term and long-term basic scientific research and develop-
4 ment and the promotion of science, technology, engineer-
5 ing, and mathematics education.

6 (b) HISTORIC FOUNDATION.—In order to carry out
7 the participation described in subsection (a), the Adminis-
8 trator of the National Aeronautics and Space Administra-
9 tion shall build on the historic role of the National Aero-
10 nautics and Space Administration in stimulating excel-
11 lence in the advancement of physical science and engineer-
12 ing disciplines and in providing opportunities and incen-
13 tives for the pursuit of academic studies in science, tech-
14 nology, engineering, and mathematics.

15 (c) BALANCED SCIENCE PROGRAM AND ROBUST AU-
16 THORIZATION LEVELS.—The balanced science program
17 authorized by section 101(d) of the National Aeronautics
18 and Space Administration Authorization Act of 2005 (42
19 U.S.C. 16611) shall be an element of the contribution by
20 the National Aeronautics and Space Administration to
21 such interagency programs. It is the sense of Congress
22 that a robust National Aeronautics and Space Administra-
23 tion, funded at the levels authorized for fiscal years 2007
24 and 2008 under sections 202 and 203 of such Act (42
25 U.S.C. 16631 and 16632) and at appropriate levels in

1 subsequent fiscal years would enable a fair balance among
2 science, aeronautics, education, exploration, and human
3 space flight programs and allow full participation in any
4 interagency efforts to promote innovation and economic
5 competitiveness.

6 (d) ANNUAL REPORT.—

7 (1) REQUIREMENT.—The Administrator shall
8 submit to Congress and the President an annual re-
9 port describing the activities conducted pursuant to
10 this section, including a description of the goals and
11 the objective metrics upon which funding decisions
12 were made.

13 (2) CONTENT.—Each report submitted pursu-
14 ant to paragraph (1) shall include, with regard to
15 science, technology, engineering, and mathematics
16 education programs, at a minimum, the following:

17 (A) A description of each program.

18 (B) The amount spent on each program.

19 (C) The number of students or teachers
20 served by each program.

21 (D) Measurement of how each program
22 improved student achievement, including with
23 regard to challenging State achievement stand-
24 ards.

1 **SEC. 1302. AERONAUTICS INSTITUTE FOR RESEARCH.**

2 (a) ESTABLISHMENT.—

3 (1) IN GENERAL.—The Administrator of the
4 National Aeronautics and Space Administration
5 shall establish within the Administration an Aero-
6 nautics Institute for Research for the purpose of
7 managing the aeronautics research carried out by
8 the Administration.

9 (2) DIRECTOR.—The Institute shall be headed
10 by a Director with appropriate experience in aero-
11 nautics research and development.

12 (b) DUTIES.—The Institute shall implement the pro-
13 grams authorized under title IV of the National Aero-
14 nautics and Space Administration Authorization Act of
15 2005 (42 U.S.C. 16701 et seq.).

16 (c) COOPERATION WITH OTHER AGENCIES.—

17 (1) IN GENERAL.—The Institute shall operate
18 in conjunction with relevant programs in the De-
19 partment of Transportation, the Department of De-
20 fense, the Department of Commerce, and the De-
21 partment of Homeland Security, including the activi-
22 ties of the Joint Planning and Development Office
23 established under the Vision 100—Century of Avia-
24 tion Reauthorization Act (Public Law 108–176; 117
25 Stat. 2490).

1 (2) RESOURCES.—The Director of the Institute
2 may accept assistance, staff, and funding from those
3 Departments and other Federal agencies. Any such
4 funding shall be in addition to funds authorized for
5 aeronautics under the National Aeronautics and
6 Space Administration Authorization Act of 2005
7 (Public Law 109–155).

8 (3) OTHER COORDINATION.—The Director of
9 the Institute may utilize the Next Generation Air
10 Transportation Senior Policy Committee established
11 under section 710 of the Vision 100—Century of
12 Aviation Reauthorization Act (Public Law 108–176;
13 49 U.S.C. 40101 note) to coordinate its programs
14 with other Departments and agencies.

15 (d) PARTNERSHIPS.—In developing and carrying out
16 its plans, the Institute shall consult with the public and
17 ensure the participation of experts from the private sector
18 including representatives of commercial aviation, general
19 aviation, aviation labor groups, aviation research and de-
20 velopment entities, aircraft and air traffic control sup-
21 pliers, and the space industry.

22 **SEC. 1303. BASIC RESEARCH ENHANCEMENT.**

23 (a) IN GENERAL.—The Administrator of the Na-
24 tional Aeronautics and Space Administration, the Director
25 of the National Science Foundation, the Secretary of En-

1 ergy, the Secretary of Defense, and Secretary of Com-
2 merce shall, to the extent practicable, coordinate basic and
3 fundamental research activities related to physical
4 sciences, technology, engineering and mathematics.

5 (b) ESTABLISHMENT OF BASIC RESEARCH EXECU-
6 TIVE COUNCIL.—In order to ensure effective application
7 of resources to basic science activity and to facilitate coop-
8 erative basic and fundamental research activities with
9 other governmental organizations, the Administrator of
10 the National Aeronautics and Space Administration shall
11 establish within the Administration a Basic Research Ex-
12 ecutive Council to oversee the distribution and manage-
13 ment of programs and resources engaged in support of
14 basic research activity.

15 (c) MEMBERSHIP.—The membership of the Basic Re-
16 search Executive Council shall consist of the most senior
17 agency official representing each of the following areas of
18 research:

- 19 (1) Space Science.
- 20 (2) Earth Science.
- 21 (3) Life and Microgravity Sciences.
- 22 (4) Aeronautical Research.

23 (d) LEADERSHIP.—The Basic Research Executive
24 Council shall be chaired by an individual appointed for
25 that purpose who shall have, as a minimum, a appropriate

1 graduate degree in a recognizable discipline in the physical
2 sciences, and appropriate experience in the conduct and
3 management of basic research activity. The Chairman of
4 the Council shall report directly to the Administrator of
5 the National Aeronautics and Space Administration.

6 (e) SUPPORTING RESOURCES AND PERSONNEL.—
7 The Chairman of the Basic Research Executive Council
8 shall be provided with adequate administrative staff sup-
9 port to conduct the activity and functions of the Council.

10 (f) DUTIES.—The Basic Research Executive Council
11 shall have, at minimum, the following duties:

12 (1) To establish criteria for the identification of
13 research activity as basic in nature.

14 (2) To establish, in consultation with the Office
15 of Science and Technology Policy, the National
16 Science Foundation, the National Academy of
17 Sciences, the National Institutes of Health, and
18 other appropriate external organizations, a
19 prioritization of fundamental research activity to be
20 conducted by the National Aeronautics and Space
21 Administration, to be reviewed and updated on an
22 annual basis, taking into consideration evolving na-
23 tional research priorities.

24 (3) To monitor, review, and evaluate all basic
25 research activity of the National Aeronautics and

1 Space Administration for compliance with basic re-
2 search priorities established under paragraph (2).

3 (4) To make recommendations to the Adminis-
4 trator of the National Aeronautics and Space Ad-
5 ministration regarding adjustments in the basic re-
6 search activities of the Administration to ensure con-
7 sistency with the research priorities established
8 under this section.

9 (5) To provide an annual report to the Com-
10 mittee on Commerce, Science, and Transportation of
11 the Senate and the Committee on Science of the
12 House of Representatives outlining the activities of
13 the Council during the preceding year and the status
14 of basic research activity within the Administration.
15 The initial such report, to serve as a baseline docu-
16 ment, shall be provided within 90 days after the es-
17 tablishment and initial operations of the Council.

18 **SEC. 1304. AGING WORKFORCE ISSUES PROGRAM.**

19 It is the sense of Congress that the Administrator
20 of the National Aeronautics and Space Administration
21 should implement a program to address aging work force
22 issues in aerospace that—

23 (1) documents technical and management expe-
24 riences before senior people leave the Administra-
25 tion, including—

- 1 (A) documenting lessons learned;
- 2 (B) briefing organizations;
- 3 (C) providing opportunities for archiving
- 4 lessons in a database; and
- 5 (D) providing opportunities for near-term
- 6 retirees to transition out early from their pri-
- 7 mary assignment in order to document their ca-
- 8 reer lessons learned and brief new employees
- 9 prior to their separation from the Administra-
- 10 tion;
- 11 (2) provides incentives for retirees to return
- 12 and teach new employees about their career lessons
- 13 and experiences; and
- 14 (3) provides for the development of an award to
- 15 recognize and reward outstanding senior employees
- 16 for their contributions to knowledge sharing.

17 **SEC. 1305. CONFORMING AMENDMENTS.**

18 Section 101(d) of the National Aeronautics and

19 Space Administration Authorization Act of 2005 (42

20 U.S.C. 16611(d)) is amended—

- 21 (1) by striking “and” after the semicolon in
- 22 paragraph (2)(B);
- 23 (2) by striking “Act.” in paragraph (2)(C) and
- 24 inserting “Act; and”;

1 (3) by adding at the end of paragraph (2) the
2 following:

3 “(D) the number and content of science
4 activities which are undertaken in support of
5 science missions described in subparagraph (A),
6 and the number and content of science activi-
7 ties which may be considered as fundamental,
8 or basic research, whether incorporated within
9 specific missions or conducted independently of
10 any specific mission.”; and

11 (4) by adding at the end of paragraph (3) the
12 following:

13 “(H) How NASA science activities can
14 best be structured to ensure that basic and fun-
15 damental research can be effectively maintained
16 and coordinated in response to national goals in
17 competitiveness and innovation, and in contrib-
18 uting to national scientific, technology, engi-
19 neering and mathematics leadership.”.

20 **SEC. 1306. FISCAL YEAR 2008 BASIC SCIENCE AND RE-**
21 **SEARCH FUNDING.**

22 Notwithstanding any other provision of law, the Ad-
23 ministrator of the National Aeronautics and Space Admin-
24 istration shall increase funding for basic science and re-
25 search, including for the Explorer Program, for fiscal year

1 2008 by \$160,000,000 by transferring such amount for
2 such purpose from accounts of the National Aeronautics
3 and Space Administration. The transfer shall be contin-
4 gent upon the availability of unobligated balances to the
5 National Aeronautics and Space Administration.

6 **TITLE IV—NATIONAL INSTITUTE**
7 **OF STANDARDS AND TECH-**
8 **NOLOGY**

9 **SEC. 1401. AUTHORIZATION OF APPROPRIATIONS.**

10 There are authorized to be appropriated to the Sec-
11 retary of Commerce for the use of the National Institute
12 of Standards and Technology—

13 (1) for fiscal year 2008, \$703,611,000, of
14 which \$115,000,000 shall be used for the Hollings
15 Manufacturing Extension Partnership Program;

16 (2) for fiscal year 2009, \$773,972,000, of
17 which \$120,000,000 shall be used for the Hollings
18 Manufacturing Extension Partnership Program;

19 (3) for fiscal year 2010, \$851,369,000, of
20 which \$125,000,000 shall be used for the Hollings
21 Manufacturing Extension Partnership Program; and

22 (4) for fiscal year 2011, \$936,506,000, of
23 which \$130,000,000 shall be used for the Hollings
24 Manufacturing Extension Partnership Program.

1 **SEC. 1402. AMENDMENTS TO THE STEVENSON-WYDLER**
2 **TECHNOLOGY INNOVATION ACT OF 1980.**

3 (a) IN GENERAL.—Section 5 of the Stevenson-
4 Wydler Technology Innovation Act of 1980 (15 U.S.C.
5 3704) is repealed.

6 (b) CONFORMING AMENDMENTS.—

7 (1) TITLE 5, UNITED STATES CODE.—Section
8 5314 of title 5, United States Code, is amended by
9 striking “Under Secretary of Commerce for Tech-
10 nology.”.

11 (2) DEFINITIONS.—Section 4 of the Stevenson-
12 Wydler Technology Innovation Act of 1980 (15
13 U.S.C. 3703) is amended—

14 (A) by striking paragraphs (1) and (3);
15 and

16 (B) by redesignating paragraphs (2)
17 through (13) as paragraphs (1) through (11),
18 respectively.

19 (3) REPEAL OF AUTHORIZATION.—Section
20 21(a) of the Stevenson-Wydler Technology Innova-
21 tion Act of 1980 (15 U.S.C. 3713(a)) is amended—

22 (A) in paragraph (1), by striking “sections
23 5, 11(g), and 16” and inserting “sections 11(g)
24 and 16”; and

25 (B) in paragraph (2), by striking
26 “\$500,000 is authorized only for the purpose of

1 carrying out the requirements of the Japanese
2 technical literature program established under
3 section 5(d) of this Act;”.

4 (4) HIGH-PERFORMANCE COMPUTING ACT OF
5 1991.—Section 208 of the High-Performance Com-
6 puting Act of 1991 (15 U.S.C. 5528) is amended by
7 striking subsection (c) and redesignating subsection
8 (d) as subsection (c).

9 (5) ASSISTIVE TECHNOLOGY ACT OF 1998.—
10 Section 6(b)(4)(B)(v) of the Assistive Technology
11 Act of 1998 (29 U.S.C. 3005(b)(4)(B)(v)) is amend-
12 ed by striking “the Technology Administration of
13 the Department of Commerce,” and inserting “the
14 National Institute of Standards and Technology,”.

15 **SEC. 1403. INNOVATION ACCELERATION.**

16 (a) PROGRAM.—In order to implement section 1202
17 of this Act, the Director of the National Institute of
18 Standards and Technology shall—

19 (1) establish a program linked to the goals and
20 objectives of the measurement laboratories, to be
21 known as the “Standards and Technology Accelera-
22 tion Research Program”, to support and promote in-
23 novation in the United States through high-risk,
24 high-reward research; and

1 (2) set aside, from funds available to the meas-
2 urement laboratories, an amount equal to not less
3 than 8 percent of the funds available to the Institute
4 each fiscal year for such Program.

5 (b) EXTERNAL FUNDING.—The Director shall ensure
6 that at least 80 percent of the funds available for such
7 Program shall be used to award competitive, merit-re-
8 viewed grants, cooperative agreements, or contracts to
9 public or private entities, including businesses and univer-
10 sities. In selecting entities to receive such assistance, the
11 Director shall ensure that the project proposed by an enti-
12 ty has scientific and technical merit and that any resulting
13 intellectual property shall vest in a United States entity
14 that can commercialize the technology in a timely manner.
15 Each external project shall involve at least one small or
16 medium-sized business and the Director shall give priority
17 to joint ventures between small or medium-sized busi-
18 nesses and educational institutions. Any grant shall be for
19 a period not to exceed 3 years.

20 (c) COMPETITIONS.—The Director shall solicit pro-
21 posals annually to address areas of national need for high-
22 risk, high-reward research, as identified by the Director.

23 (d) ANNUAL REPORT.—Each year the Director shall
24 issue an annual report describing the program’s activities,
25 including include a description of the metrics upon which

1 grant funding decisions were made in the previous fiscal
2 year, any proposed changes to those metrics, metrics for
3 evaluating the success of ongoing and completed grants,
4 and an evaluation of ongoing and completed grants. The
5 first annual report shall include best practices for manage-
6 ment of programs to stimulate high-risk, high-reward re-
7 search.

8 (e) ADMINISTRATIVE EXPENSES.—No more than 5
9 percent of the finding available to the program may be
10 used for administrative expenses.

11 (f) HIGH-RISK, HIGH-REWARD RESEARCH DE-
12 FINED.—In this section, the term “high-risk, high-reward
13 research” means research that—

14 (1) has the potential for yielding results with
15 far-ranging or wide-ranging implications;

16 (2) addresses critical national needs related to
17 measurement standards and technology; and

18 (3) is too novel or spans too diverse a range of
19 disciplines to fare well in the traditional peer review
20 process.

21 **SEC. 1404. MANUFACTURING EXTENSION.**

22 (a) MANUFACTURING CENTER EVALUATION.—Sec-
23 tion 25(c)(5) of the National Institute of Standards and
24 Technology Act (15 U.S.C. 278k(c)(5)) is amended by in-
25 serting “A Center that has not received a positive evalua-

1 tion by the evaluation panel shall be notified by the panel
2 of the deficiencies in its performance and shall be placed
3 on probation for one year, after which time the panel shall
4 reevaluate the Center. If the Center has not addressed the
5 deficiencies identified by the panel, or shown a significant
6 improvement in its performance, the Director shall con-
7 duct a new competition to select an operator for the Cen-
8 ter or may close the Center.” after “at declining levels.”.

9 (b) FEDERAL SHARE.—Section 25 of the National
10 Institute of Standards and Technology Act (15 U.S.C.
11 278k) is amended by striking subsection (d) and inserting
12 the following:

13 “(d) ACCEPTANCE OF FUNDS.—In addition to such
14 sums as may be appropriated to the Secretary and Direc-
15 tor to operate the Centers program, the Secretary and Di-
16 rector also may accept funds from other Federal depart-
17 ments and agencies and under section 2(c)(7) from the
18 private sector for the purpose of strengthening United
19 States manufacturing. Such funds from the private sector,
20 if allocated to a Center or Centers, shall not be considered
21 in the calculation of the Federal share of capital and an-
22 nual operating and maintenance costs under subsection
23 (c).”.

1 **SEC. 1405. EXPERIMENTAL PROGRAM TO STIMULATE COM-**
2 **PETITIVE TECHNOLOGY.**

3 (a) IN GENERAL.—The Director of the National In-
4 stitutes of Standards and Technology shall re-establish the
5 Experimental Program to Stimulate Competitive Tech-
6 nology. The purpose of the program shall be to strengthen
7 the technological competitiveness of those States that have
8 historically received less Federal research and development
9 funds than a majority of the States have received.

10 (b) ARRANGEMENTS.—In carrying out the program,
11 the Director shall cooperate with State, regional, or local
12 science and technology-based economic development orga-
13 nization and with representatives of small business firms
14 and other appropriate technology-based businesses.

15 (c) GRANTS AND COOPERATIVE AGREEMENTS.—In
16 carrying out the program, the Director may make grants
17 or enter into cooperative agreements to provide for—

- 18 (1) technology research and development;
19 (2) technology transfer from university re-
20 search;
21 (3) technology deployment and diffusion; and
22 (4) the strengthening of technological and inno-
23 vation capabilities through consortia comprised of—
24 (A) technology-based small business firms;
25 (B) industries and emerging companies;

1 (C) institutions of higher education includ-
2 ing community colleges; and

3 (D) State and local development agencies
4 and entities.

5 (d) REQUIREMENTS FOR MAKING AWARDS.—

6 (1) IN GENERAL.—In making awards under
7 this section, the Director shall ensure that the
8 awards are awarded on a competitive basis that in-
9 cludes a review of the merits of the activities that
10 are the subject of the award, giving special emphasis
11 to those projects which will increase the participa-
12 tion of women, Native Americans (including Native
13 Hawaiians and Alaska Natives), and underrep-
14 resented groups in science and technology.

15 (2) MATCHING REQUIREMENT.—The non-Fed-
16 eral share of the activities (other than planning ac-
17 tivities) carried out under an award under this sub-
18 section shall be not less than 50 percent of the cost
19 of those activities.

20 (e) CRITERIA FOR STATES.—The Director shall es-
21 tablish criteria for achievement by each State that partici-
22 pates in the program. Upon the achievement of all such
23 criteria, a State shall cease to be eligible to participate
24 in the program.

1 (f) COORDINATION.—To the extent practicable, in
2 carrying out this subsection, the Director shall coordinate
3 the program with other programs of the Department of
4 Commerce.

5 (g) REPORT.—

6 (1) IN GENERAL.—Not later than 90 days after
7 the date of enactment of this Act, the Director shall
8 prepare and submit to the Committee on Commerce,
9 Science, and Transportation of the Senate and the
10 Committee on Science of the House of Representa-
11 tives a report that meets the requirements of this
12 subsection.

13 (2) REQUIREMENTS FOR REPORT.—The report
14 required by this subsection shall contain—

15 (A) a description of the structure and pro-
16 cedures of the program;

17 (B) a management plan for the program;

18 (C) a description of the merit-based review
19 process to be used in the program;

20 (D) milestones for the evaluation of activi-
21 ties to be assisted under the program in fiscal
22 year 2008;

23 (E) an assessment of the eligibility of each
24 State that participates in the Experimental
25 Program to Stimulate Competitive Research of

1 the National Science Foundation to participate
2 in the program under this subsection; and

3 (F) the evaluation criteria with respect to
4 which the overall management and effectiveness
5 of the program will be evaluated.

6 **SEC. 1406. TECHNICAL AMENDMENTS TO THE NATIONAL IN-**
7 **STITUTE OF STANDARDS AND TECHNOLOGY**
8 **ACT AND OTHER TECHNICAL AMENDMENTS.**

9 (a) RESEARCH FELLOWSHIPS.—Section 18 of the
10 National Institute of Standards and Technology Act (15
11 U.S.C. 278g–1) is amended by striking “up to 1 per cen-
12 tum of the” in the first sentence.

13 (b) FINANCIAL AGREEMENTS.—

14 (1) CLARIFICATION.—Section 2(b)(4) of the
15 National Institute of Standards and Technology Act
16 (15 U.S.C. 272(b)(4)) is amended by inserting “and
17 grants and cooperative agreements,” after “arrange-
18 ments,”.

19 (2) MEMBERSHIPS.—Section 2(c) of the Na-
20 tional Institute of Standards and Technology Act
21 (15 U.S.C. 272(c)) is amended—

22 (A) by striking “and” after the semicolon
23 in paragraph (21);

24 (B) by redesignating paragraph (22) as
25 paragraph (23); and

1 (C) by inserting after paragraph (21) the
2 following:

3 “(22) notwithstanding subsection (b)(4) of this
4 section, sections 6301 through 6308 of title 31,
5 United States Code (commonly known as the
6 ‘Grants and Cooperative Agreements Act’), sections
7 3551 through 3556 of such title (commonly known
8 as the ‘Competition in Contracting Act’), and the
9 Federal Acquisition Regulations set forth in title 48,
10 Code of Federal Regulations, to expend appropriated
11 funds for National Institute of Standards and Tech-
12 nology memberships in scientific organizations, reg-
13 istration fees for attendance at conferences, and
14 sponsorship of conferences in furtherance of tech-
15 nology transfer; and”.

16 (c) WORKING CAPITAL FUND.—Section 12 of the
17 National Institute of Standards and Development Act (15
18 U.S.C. 278b) is amended by adding at the end the fol-
19 lowing:

20 “(g) AMOUNT AND SOURCE OF TRANSFERS.—Not to
21 exceed one-quarter per centum of the amounts appro-
22 priated to the Institute for any fiscal year may be trans-
23 ferred to the fund, in addition to any other transfer au-
24 thority. In addition, funds provided to the Institute from
25 other Federal agencies for the purpose of production of

1 Standard Reference Materials may be transferred to the
2 fund.”.

3 (d) OUTDATED SPECIFICATIONS.—

4 (1) REDEFINITION OF METRIC SYSTEM.—Sec-
5 tion 2 of the Act of July 28, 1866, entitled “An Act
6 to authorize the Use of the Metric System of
7 Weights and Measures” (15 U.S.C. 205; 14 Stat.
8 339) is amended to read as follows:

9 **“SEC. 2. METRIC SYSTEM DEFINED.**

10 “The metric system of measurement shall be defined
11 as the International System of Units as established in
12 1960, and subsequently maintained, by the General Con-
13 ference of Weights and Measures, and as interpreted or
14 modified for the United States by the Secretary of Com-
15 merce.”.

16 (2) REPEAL OF REDUNDANT AND OBSOLETE
17 AUTHORITY.—The Act of July 21, 1950, entitled,
18 “An Act To redefine the units and establish the
19 standards of electrical and photometric measure-
20 ments of 1950” (15 U.S.C. 223) is hereby repealed.

21 (3) IDAHO TIME ZONE.—Section 3 of the Act of
22 March 19, 1918, (commonly known as the “Calder
23 Act”) (15 U.S.C. 264) is amended—

1 (A) in the section heading, by striking
2 “**third zone**” and inserting “**fourth zone**”;
3 and

4 (B) by striking “third zone” and inserting
5 “fourth zone”.

6 (4) STANDARD TIME.—Section 1 of the Act of
7 March 19, 1918, (commonly known as the “Calder
8 Act”) (15 U.S.C. 261) is amended—

9 (A) by inserting “(a) IN GENERAL.—” be-
10 fore “For the purpose”;

11 (B) by striking the second sentence and
12 the extra period after it and inserting “Except
13 as provided in section 3(a) of the Uniform Time
14 Act of 1966 (15 U.S.C. 260a), the standard
15 time of the first zone shall be Coordinated Uni-
16 versal Time retarded by 4 hours; that of the
17 second zone retarded by 5 hours; that of the
18 third zone retarded by 6 hours; that of the
19 fourth zone retarded by 7 hours; that of the
20 fifth zone retarded 8 hours; that of the sixth
21 zone retarded by 9 hours; that of the seventh
22 zone retarded by 10 hours; that of the eighth
23 zone retarded by 11 hours; and that of the
24 ninth zone shall be Coordinated Universal Time
25 advanced by 10 hours.”; and

1 (C) by adding at the end the following:

2 “(b) COORDINATED UNIVERSAL TIME DEFINED.—In
3 this section, the term ‘Coordinated Universal Time’ means
4 the time scale maintained through the General Conference
5 of Weights and Measures and interpreted or modified for
6 the United States by the Secretary of Commerce in coordi-
7 nation with the Secretary of the Navy.”.

8 (e) RETENTION OF DEPRECIATION SURCHARGE.—
9 Section 14 of the National Institute of Standards and
10 Technology Act (15 U.S.C. 278d) is amended—

11 (1) by inserting “(a) IN GENERAL.—” before
12 “Within”; and

13 (2) by adding at the end the following:

14 “(b) RETENTION OF FEES.—The Director is author-
15 ized to retain all building use and depreciation surcharge
16 fees collected pursuant to OMB Circular A-25. Such fees
17 shall be collected and credited to the Construction of Re-
18 search Facilities Appropriation Account for use in mainte-
19 nance and repair of National Institute of Standards and
20 Technology’s existing facilities.”.

21 (f) NON-ENERGY INVENTIONS PROGRAM.—Section
22 27 of the National Institute of Standards and Technology
23 Act (15 U.S.C. 278m) is repealed.

1 **TITLE V—OCEAN AND**
2 **ATMOSPHERIC PROGRAMS**

3 **SEC. 1501. OCEAN AND ATMOSPHERIC RESEARCH AND DE-**
4 **VELOPMENT PROGRAM.**

5 The Administrator of the National Oceanic and At-
6 mospheric Administration, in consultation with the Direc-
7 tor of the National Science Foundation and the Adminis-
8 trator of the National Aeronautics and Space Administra-
9 tion, shall establish a coordinated program of ocean and
10 atmospheric research and development, in collaboration
11 with academic institutions and other nongovernmental en-
12 tities, that shall focus on the development of advanced
13 technologies and analytical methods that will promote
14 United States leadership in ocean and atmospheric science
15 and competitiveness in the applied uses of such knowledge.

16 **SEC. 1502. NOAA OCEAN AND ATMOSPHERIC SCIENCE EDU-**
17 **CATION PROGRAMS.**

18 (a) IN GENERAL.—The Administrator of the Na-
19 tional Oceanic and Atmospheric Administration shall con-
20 duct, develop, support, promote, and coordinate formal
21 and informal educational activities at all levels to enhance
22 public awareness and understanding of ocean, coastal, and
23 atmospheric science and stewardship by the general public
24 and other coastal stakeholders, including underrep-
25 resented groups in ocean and atmospheric science and pol-

1 icy careers. In conducting those activities, the Adminis-
 2 trator shall build upon the educational programs and ac-
 3 tivities of the agency.

4 (b) NOAA SCIENCE EDUCATION PLAN.—The Ad-
 5 ministrator, appropriate National Oceanic and Atmos-
 6 pheric Administration programs, ocean atmospheric
 7 science and education experts, and interested members of
 8 the public shall develop a science education plan setting
 9 forth education goals and strategies for the Administra-
 10 tion, as well as programmatic actions to carry out such
 11 goals and priorities over the next 20 years, and evaluate
 12 and update such plan every 5 years.

13 (c) CONSTRUCTION.—Nothing in this section may be
 14 construed to affect the application of section 438 of the
 15 General Education Provisions Act (20 U.S.C. 1232a) or
 16 sections 504 and 508 of the Rehabilitation Act of 1973
 17 (29 U.S.C. 794 and 794d).

18 **DIVISION B—DEPARTMENT OF** 19 **ENERGY**

20 **SEC. 2001. SHORT TITLE.**

21 This division may be cited as the “Protecting Amer-
 22 ica’s Competitive Edge Through Energy Act” or the
 23 “PACE–Energy Act”.

24 **SEC. 2002. DEFINITIONS.**

25 In this division:

1 (1) DEPARTMENT.—The term “Department”
2 means the Department of Energy.

3 (2) INSTITUTION OF HIGHER EDUCATION.—The
4 term “institution of higher education” has the
5 meaning given in section 101(a) of the Higher Edu-
6 cation Act of 1965 (20 U.S.C. 1001(a)).

7 (3) NATIONAL LABORATORY.—The term “Na-
8 tional Laboratory” has the meaning given the term
9 in section 2 of the Energy Policy Act of 2005 (42
10 U.S.C. 15801).

11 (4) SECRETARY.—The term “Secretary” means
12 the Secretary of Energy, acting through the Under
13 Secretary for Science appointed under section
14 202(b) of the Department of Energy Organization
15 Act (42 U.S.C. 7132(b)).

16 **SEC. 2003. MATHEMATICS, SCIENCE, AND ENGINEERING**
17 **EDUCATION AT THE DEPARTMENT OF EN-**
18 **ERGY.**

19 (a) SCIENCE EDUCATION PROGRAMS.—Section 3164
20 of the Department of Energy Science Education Enhance-
21 ment Act (42 U.S.C. 7381a) is amended—

22 (1) by redesignating subsections (b) through (d)
23 as subsections (c) through (e), respectively;

24 (2) by inserting after subsection (a) the fol-
25 lowing:

1 “(b) ORGANIZATION OF MATHEMATICS, SCIENCE,
2 AND ENGINEERING EDUCATION PROGRAMS.—

3 “(1) DIRECTOR OF MATHEMATICS, SCIENCE
4 AND ENGINEERING EDUCATION.—Notwithstanding
5 any other provision of law, the Secretary, acting
6 through the Under Secretary for Science (referred to
7 in this subsection as the ‘Under Secretary’), shall
8 appoint a Director of Mathematics, Science, and En-
9 gineering Education (referred to in this subsection
10 as the ‘Director’) with the principal responsibility for
11 administering mathematics, science, and engineering
12 education programs across all functions of the De-
13 partment.

14 “(2) QUALIFICATIONS.—The Director shall be
15 an individual, who by reason of professional back-
16 ground and experience, is specially qualified to ad-
17 vise the Under Secretary on all matters pertaining
18 to mathematics, science, and engineering education
19 at the Department.

20 “(3) DUTIES.—The Director shall—

21 “(A) oversee all mathematics, science, and
22 engineering education programs of the Depart-
23 ment;

24 “(B) represent the Department as the
25 principal interagency liaison for all mathe-

1 matics, science, and engineering education pro-
2 grams, unless otherwise represented by the Sec-
3 retary or the Under Secretary;

4 “(C) prepare the annual budget and advise
5 the Under Secretary on all budgetary issues for
6 mathematics, science, and engineering edu-
7 cation programs of the Department;

8 “(D) increase, to the maximum extent
9 practicable, the participation and advancement
10 of women and underrepresented minorities at
11 every level of science, technology, engineering,
12 and mathematics education; and

13 “(E) perform other such matters related to
14 mathematics, science, and engineering edu-
15 cation as are required by the Secretary or the
16 Under Secretary.

17 “(4) STAFF AND OTHER RESOURCES.—The
18 Secretary shall assign to the Director such personnel
19 and other resources as the Secretary considers nec-
20 essary to permit the Director to carry out the duties
21 of the Director.

22 “(5) ASSESSMENT.—

23 “(A) IN GENERAL.—The Secretary shall
24 offer to enter into a contract with the National
25 Academy of Sciences under which the National

1 Academy, not later than 5 years after, and not
2 later than 10 years after, the date of enactment
3 of this paragraph, shall assess the performance
4 of the mathematics, science, and engineering
5 education programs of the Department.

6 “(B) CONSIDERATIONS.—An assessment
7 under this paragraph shall be conducted taking
8 into consideration, where applicable, the effect
9 of mathematics, science, and engineering edu-
10 cation programs of the Department on student
11 academic achievement in math and science.

12 “(6) AUTHORIZATION OF APPROPRIATIONS.—
13 There are authorized to be appropriated such sums
14 as are necessary to carry out this subsection.”; and
15 (3) by striking subsection (d) (as redesignated
16 by paragraph (1)) and inserting the following:

17 “(d) MATHEMATICS, SCIENCE, AND ENGINEERING
18 EDUCATION FUND.—The Secretary shall establish a
19 Mathematics, Science, and Engineering Education Fund,
20 using not less than 0.3 percent of the amount made avail-
21 able to the Department for research, development, dem-
22 onstration, and commercial application for each fiscal
23 year, to carry out sections 3165, 3166, and 3167.”.

24 (b) CONSULTATION.—The Secretary shall—

1 (1) consult with the Secretary of Education re-
 2 garding activities authorized under subpart B of the
 3 Department of Energy Science Education Enhance-
 4 ment Act (as added by subsection (d)(3)) to improve
 5 mathematics and science education; and

6 (2) otherwise make available to the Secretary of
 7 Education reports associated with programs author-
 8 ized under that section.

9 (c) DEFINITION.—Section 3168 of the Department
 10 of Energy Science Education Enhancement Act (42
 11 U.S.C. 7381d) is amended by adding at the end the fol-
 12 lowing:

13 “(5) NATIONAL LABORATORY.—The term ‘Na-
 14 tional Laboratory’ has the meaning given the term
 15 in section 2 of the Energy Policy Act of 2005 (42
 16 U.S.C. 15801).”.

17 (d) MATHEMATICS, SCIENCE, AND ENGINEERING
 18 EDUCATION PROGRAMS.—The Department of Energy
 19 Science Education Enhancement Act (42 U.S.C. 7381 et
 20 seq.) is amended—

21 (1) by inserting after section 3162 the fol-
 22 lowing:

23 **“Subpart A—Science Education Enhancement”;**

24 (2) in section 3169, by striking “part” and in-
 25 serting “subpart”; and

1 (3) by adding at the end the following:

2 **“Subpart B—Mathematics, Science, and Engineering**
3 **Education Programs**

4 **“SEC. 3170. DEFINITIONS.**

5 “In this subpart:

6 “(1) DIRECTOR.—The term ‘Director’ means
7 the Director of Mathematics, Science, and Engineer-
8 ing Education.

9 “(2) NATIONAL LABORATORY.—The term ‘Na-
10 tional Laboratory’ has the meaning given the term
11 in section 2 of the Energy Policy Act of 2005 (42
12 U.S.C. 15801).

13 **“CHAPTER 1—ASSISTANCE FOR SPE-**
14 **CIALTY SCHOOLS FOR MATHEMATICS**
15 **AND SCIENCE**

16 **“SEC. 3171. SPECIALTY SCHOOLS FOR MATHEMATICS AND**
17 **SCIENCE.**

18 “(a) PURPOSE.—The purpose of this section is to
19 provide assistance to States to establish or expand public,
20 statewide specialty secondary schools that provide com-
21 prehensive mathematics and science (including engineer-
22 ing) education to improve the academic achievement of
23 students in mathematics and science.

24 “(b) DEFINITION OF SPECIALTY SCHOOL FOR MATH-
25 EMATICS AND SCIENCE.—In this chapter, the term ‘spe-

1 cialty school for mathematics and science’ means a public
2 secondary school (including a school that provides residen-
3 tial services to students) that—

4 “(1) serves students residing in the State in
5 which the school is located; and

6 “(2) offers to those students a high-quality,
7 comprehensive mathematics and science (including
8 engineering) curriculum designed to improve the
9 academic achievement of students in mathematics
10 and science.

11 “(c) GRANTS AUTHORIZED.—

12 “(1) IN GENERAL.—From the amounts author-
13 ized under subsection (i), the Secretary, acting
14 through the Director, shall award grants, on a com-
15 petitive basis, to States in order to provide assist-
16 ance to the States for the costs of establishing or ex-
17 panding public, statewide specialty schools for math-
18 ematics and science.

19 “(2) RESOURCES.—The Director shall ensure
20 that appropriate resources of the Department, in-
21 cluding the National Laboratories, are available to
22 schools funded under this section in order to—

23 “(A) increase experiential, hands-on learn-
24 ing opportunities in mathematics and science
25 for students attending such schools; and

1 “(B) provide ongoing professional develop-
2 ment opportunities for teachers employed at
3 such schools.

4 “(3) ASSISTANCE.—Consistent with sections
5 3165 and 3166, the Director shall make available
6 necessary funds for a program using scientific and
7 engineering staff of the National Laboratories, dur-
8 ing which the staff—

9 “(A) assists teachers in teaching courses at
10 the schools funded under this section;

11 “(B) uses National Laboratory scientific
12 equipment in teaching the courses; and

13 “(C) uses distance education and other
14 technologies to provide assistance described in
15 subparagraphs (A) and (B) to schools funded
16 under this section that are not located near the
17 National Laboratories.

18 “(4) RESTRICTION.—No State shall receive
19 funding for more than 1 specialty school for mathe-
20 matics and science for a fiscal year.

21 “(d) FEDERAL AND NON-FEDERAL SHARES.—

22 “(1) FEDERAL SHARE.—The Federal share of
23 the costs described in subsection (c)(1) shall not ex-
24 ceed 50 percent.

1 “(2) NON-FEDERAL SHARE.—The non-Federal
2 share of the costs described in subsection (c)(1) shall
3 be—

4 “(A) not less than 50 percent; and

5 “(B) provided from non-Federal sources,
6 in cash or in kind, fairly evaluated, including
7 services.

8 “(e) APPLICATION.—Each State desiring a grant
9 under this section shall submit an application to the Direc-
10 tor at such time, in such manner, and accompanied by
11 such information as the Director may require that de-
12 scribes—

13 “(1) the process by which and selection criteria
14 with which the State will select and designate a
15 school as a specialty school for mathematics and
16 science in accordance with this section;

17 “(2) how the State will ensure that funds made
18 available under this section are used to establish or
19 expand a specialty school for mathematics and
20 science—

21 “(A) in accordance with the activities de-
22 scribed in subsection (g); and

23 “(B) that has the capacity to improve the
24 academic achievement of all students in all core

1 academic subjects, and particularly in mathe-
2 matics and science;

3 “(3) how the State will measure the extent to
4 which the school increases student academic achieve-
5 ment on State academic achievement standards in
6 mathematics and science;

7 “(4) the curricula and materials to be used in
8 the school;

9 “(5) the availability of funds from non-Federal
10 sources for the non-Federal share of the costs of the
11 activities authorized under this section; and

12 “(6) how the State will use technical assistance
13 and support from the Department, including the Na-
14 tional Laboratories, and other entities with experi-
15 ence and expertise in mathematics and science edu-
16 cation, including institutions of higher education.

17 “(f) DISTRIBUTION.—In awarding grants under this
18 section, the Director shall—

19 “(1) ensure a wide, equitable distribution
20 among States that propose to serve students from
21 urban and rural areas; and

22 “(2) provide equal consideration to States with-
23 out National Laboratories.

24 “(g) USES OF FUNDS.—

1 “(1) IN GENERAL.—A State that receives a
2 grant under this section shall use the funds made
3 available through the grant to—

4 “(A) employ proven strategies and meth-
5 ods for improving student learning and teaching
6 in mathematics and science;

7 “(B) integrate into the curriculum of the
8 school comprehensive mathematics and science
9 education, including instruction and assess-
10 ments that are aligned with the State’s aca-
11 demic content and student academic achieve-
12 ment standards (within the meaning of section
13 1111 of the Elementary and Secondary Edu-
14 cation Act of 1965 (20 U.S.C. 6311)), class-
15 room management, professional development,
16 parental involvement, and school management;
17 and

18 “(C) provide high-quality and continuous
19 teacher and staff professional development.

20 “(2) SPECIAL RULE.—Grant funds under this
21 section may be used for activities described in para-
22 graph (1) only if the activities are directly related to
23 improving student academic achievement in mathe-
24 matics and science.

25 “(h) EVALUATION AND REPORT.—

1 “(1) STATE EVALUATION AND REPORT.—

2 “(A) EVALUATION.—Each State that re-
3 ceives a grant under this section shall develop
4 and carry out an evaluation and accountability
5 plan for the activities funded through the grant
6 that measures the impact of the activities, in-
7 cluding measurable objectives for improved stu-
8 dent academic achievement on State mathe-
9 matics and science assessments.

10 “(B) REPORT.—The State shall submit to
11 the Director a report containing the results of
12 the evaluation and accountability plan.

13 “(2) REPORT TO CONGRESS.—Not later than 2
14 years after the date of enactment of the PACE–En-
15 ergy Act, the Director shall submit a report to the
16 appropriate committees of Congress detailing the im-
17 pact of the activities assisted with funds made avail-
18 able under this section.

19 “(i) AUTHORIZATION OF APPROPRIATIONS.—There
20 are authorized to be appropriated to carry out this sec-
21 tion—

22 “(1) \$20,000,000 for fiscal year 2008;

23 “(2) \$30,000,000 for fiscal year 2009;

24 “(3) \$40,000,000 for fiscal year 2010; and

25 “(4) \$50,000,000 for fiscal year 2011.

1 **“CHAPTER 2—EXPERIENTIAL-BASED**
2 **LEARNING OPPORTUNITIES**

3 **“SEC. 3175. EXPERIENTIAL-BASED LEARNING OPPORTUNI-**
4 **TIES.**

5 “(a) INTERNSHIPS AUTHORIZED.—

6 “(1) IN GENERAL.—From the amounts author-
7 ized under subsection (f), the Secretary, acting
8 through the Director, shall establish a summer in-
9 ternship program for middle school and secondary
10 school students that shall—

11 “(A) provide the students with internships
12 at the National Laboratories; and

13 “(B) promote experiential, hands-on learn-
14 ing in mathematics or science.

15 “(2) RESIDENTIAL SERVICES.—The Director
16 may provide residential services to students partici-
17 pating in the Internship authorized under this chap-
18 ter.

19 “(b) SELECTION CRITERIA.—

20 “(1) IN GENERAL.—The Director shall establish
21 criteria to determine the sufficient level of academic
22 preparedness necessary for a student to be eligible
23 for an internship under this section.

24 “(2) PARTICIPATION.—The Director shall en-
25 sure the participation of students from a wide dis-

1 tribution of States, including States without Na-
2 tional Laboratories.

3 “(c) PRIORITY.—

4 “(1) IN GENERAL.—The Director shall give pri-
5 ority for an internship under this section to a stu-
6 dent who meets the eligibility criteria described in
7 subsection (b) and who attends a school—

8 “(A)(i) in which not less than 30 percent
9 of the children enrolled in the school are from
10 low-income families; or

11 “(ii) that is designated with a school locale
12 code of 6, 7, or 8, as determined by the Sec-
13 retary of Education; and

14 “(B) for which there is—

15 “(i) a high percentage of teachers who
16 are not teaching in the academic subject
17 areas or grade levels in which the teachers
18 were trained to teach;

19 “(ii) a high teacher turnover rate; or

20 “(iii) a high percentage of teachers
21 with emergency, provisional, or temporary
22 certification or licenses.

23 “(2) COORDINATION.—The Director shall con-
24 sult with the Secretary of Education in order to de-

1 termine whether a student meets the priority re-
2 quirements of this subsection.

3 “(d) OUTREACH AND EXPERIENTIAL-BASED PRO-
4 GRAMS FOR MINORITY STUDENTS.—

5 “(1) IN GENERAL.—The Secretary, acting
6 through the Director, in cooperation with Hispanic-
7 serving institutions, historically Black colleges and
8 universities, tribally controlled colleges and univer-
9 sities, Alaska Native- and Native Hawaiian-serving
10 institutions, and other minority-serving institutions
11 and nonprofit entities with substantial experience re-
12 lating to outreach and experiential-based learning
13 projects, shall establish outreach and experiential-
14 based learning programs that will encourage under-
15 represented minority students in kindergarten
16 through grade 12 to pursue careers in math, science,
17 and engineering.

18 “(2) COMMUNITY INVOLVEMENT.—The Sec-
19 retary shall ensure that the programs established
20 under paragraph (1) involve, to the maximum extent
21 practicable—

22 “(A) participation by parents and edu-
23 cators; and

1 “(B) the establishment of partnerships
2 with business organizations and appropriate
3 Federal, State, and local agencies.

4 “(3) DISTRIBUTION.—The Secretary shall en-
5 sure that the programs established under paragraph
6 (1) are located in diverse geographic regions of the
7 United States, to the maximum extent practicable.

8 “(e) EVALUATION AND ACCOUNTABILITY PLAN.—
9 The Director shall develop an evaluation and account-
10 ability plan for the activities funded under this chapter
11 that objectively measures the impact of the activities.

12 “(f) AUTHORIZATION OF APPROPRIATIONS.—There
13 is authorized to be appropriated to carry out this section
14 \$15,000,000 for each of fiscal years 2008 through 2011.

15 **“CHAPTER 3—NATIONAL LABORATORIES**
16 **CENTERS OF EXCELLENCE IN MATHE-**
17 **MATICS AND SCIENCE EDUCATION**

18 **“SEC. 3181. NATIONAL LABORATORIES CENTERS OF EXCEL-**
19 **LENCE IN MATHEMATICS AND SCIENCE EDU-**
20 **CATION.**

21 “(a) DEFINITION OF HIGH-NEED PUBLIC SEC-
22 ONDARY SCHOOL.—In this chapter, the term ‘high-need
23 public secondary school’ means a secondary school—

24 “(1) with a high concentration of low-income
25 individuals (as defined in section 1707 of the Ele-

1 elementary and Secondary Education Act of 1965 (20
2 U.S.C. 6537)); or

3 “(2) designated with a school locale code of 6,
4 7, or 8, as determined by the Secretary of Edu-
5 cation.

6 “(b) ESTABLISHMENT.—The Secretary shall estab-
7 lish at each of the National Laboratories a program to
8 support a Center of Excellence in Mathematics and
9 Science at 1 high-need public secondary school located in
10 the region of the National Laboratory to provide assist-
11 ance in accordance with subsection (f).

12 “(c) PARTNERSHIP.—Each high-need public sec-
13 ondary school selected as a Center of Excellence shall form
14 a partnership with a department that provides training for
15 teachers and principals at an institution of higher edu-
16 cation for purposes of compliance with subsection (g).

17 “(d) SELECTION.—

18 “(1) IN GENERAL.—The Secretary, acting
19 through the Director, shall establish criteria to guide
20 the National Laboratories in selecting the sites of
21 the Centers of Excellence.

22 “(2) PROCESS.—The National Laboratories
23 shall select the sites of the Centers of Excellence
24 through an open, widely publicized, and competitive
25 process.

1 “(e) GOALS.—The Secretary shall establish goals and
2 performance assessments for each Center of Excellence
3 authorized under subsection (b).

4 “(f) ASSISTANCE.—Consistent with sections 3165
5 and 3166, the Director shall make available necessary
6 funds for a program using scientific and engineering staff
7 of the National Laboratories, during which the staff—

8 “(1) assists teachers in teaching courses at the
9 Centers of Excellence in Mathematics and Science;
10 and

11 “(2) uses National Laboratory scientific equip-
12 ment in the teaching of the courses.

13 “(g) SPECIAL RULE.—Each Center of Excellence
14 shall ensure—

15 “(1) provision of clinical practicum, student
16 teaching, or internship experiences for math and
17 science teacher candidates as part of its teacher
18 preparation program;

19 “(2) provision of supervision and mentoring for
20 teacher candidates in the teacher preparation pro-
21 gram; and

22 “(3) to the maximum extent practicable, provi-
23 sion of professional development for veteran teachers
24 in the public secondary schools in the region.

1 “(h) EVALUATION.—The Secretary shall consider the
2 results of performance assessments required under sub-
3 section (e) in determining the contract award fee of a Na-
4 tional Laboratory management and operations contractor.

5 “(i) PLAN.—The Director shall—

6 “(1) develop an evaluation and accountability
7 plan for the activities funded under this chapter that
8 objectively measures the impact of the activities; and

9 “(2) disseminate information obtained from
10 those measurements.

11 “(j) NO EFFECT ON SIMILAR PROGRAMS.—Nothing
12 in this section displaces or otherwise affects any similar
13 program being carried out as of the date of enactment
14 of this subpart at any National Laboratory under any
15 other provision of law.

16 **“CHAPTER 4—SUMMER INSTITUTES**

17 **“SEC. 3185. SUMMER INSTITUTES.**

18 “(a) DEFINITIONS.—In this section:

19 “(1) ELIGIBLE PARTNER.—The term ‘eligible
20 partner’ means—

21 “(A) the mathematics or science (including
22 engineering) department at an institution of
23 higher education, acting in coordination with a
24 department at an institution of higher edu-

1 cation that provides training for teachers and
2 principals; or

3 “(B) a nonprofit entity with expertise in
4 providing professional development for mathe-
5 matics or science teachers.

6 “(2) SUMMER INSTITUTE.—The term ‘summer
7 institute’ means an institute, conducted during the
8 summer, that—

9 “(A) is conducted for a period of not less
10 than 2 weeks;

11 “(B) includes, as a component, a program
12 that provides direct interaction between stu-
13 dents and faculty, including personnel of 1 or
14 more National Laboratories who have scientific
15 expertise; and

16 “(C) provides for follow-up training, dur-
17 ing the academic year, that is conducted in the
18 classroom.

19 “(b) SUMMER INSTITUTE PROGRAMS AUTHOR-
20 IZED.—

21 “(1) PROGRAMS AT THE NATIONAL LABORA-
22 TORIES.—The Secretary, acting through the Direc-
23 tor, shall establish or expand programs of summer
24 institutes at each of the National Laboratories to
25 provide additional training to strengthen the mathe-

1 matics and science teaching skills of teachers em-
2 ployed at public schools for kindergarten through
3 grade 12, in accordance with the activities author-
4 ized under subsections (c) and (d).

5 “(2) PROGRAMS WITH ELIGIBLE PARTNERS.—

6 “(A) IN GENERAL.—The Secretary, acting
7 through the Director, shall identify and provide
8 assistance to eligible partners to establish or ex-
9 pand programs of summer institutes that pro-
10 vide additional training to strengthen the math-
11 ematics and science teaching skills of teachers
12 employed at public schools for kindergarten
13 through grade 12, in accordance with the activi-
14 ties authorized under subsections (c) and (d).

15 “(B) ASSISTANCE.—Consistent with sec-
16 tions 3165 and 3166, the Director shall make
17 available necessary funds for a program using
18 scientific and engineering staff of the National
19 Laboratories, during which the staff—

20 “(i) assists in providing training to
21 teachers at summer institutes; and

22 “(ii) uses National Laboratory sci-
23 entific equipment in the training.

24 “(C) LIMITATION OF AMOUNT.—To carry
25 out this paragraph, the Director may use not

1 more than 50 percent of the amounts author-
2 ized under subsection (h) for a fiscal year.

3 “(c) REQUIRED ACTIVITIES.—Each program author-
4 ized under subsection (b) shall—

5 “(1) create opportunities for enhanced and on-
6 going professional development for teachers that im-
7 proves the mathematics and science content knowl-
8 edge of such teachers;

9 “(2) include material pertaining to recent devel-
10 opments in mathematics and science pedagogy;

11 “(3) provide training on the use and integration
12 of technology in the classroom;

13 “(4) directly relate to the curriculum and aca-
14 demic areas in which the teachers provide instruc-
15 tion;

16 “(5) enhance the ability of the teachers to un-
17 derstand and use the challenging State academic
18 content standards for mathematics and science and
19 to select appropriate curricula;

20 “(6) train teachers to use curricula that are—

21 “(A) based on scientific research;

22 “(B) aligned with challenging State aca-
23 demic content standards; and

24 “(C) object-centered, experiment-oriented,
25 and concept- and content-based;

1 “(7) provide professional development activities,
2 including supplemental and follow-up activities; and

3 “(8) allow for the exchange of best practices
4 among the participants.

5 “(d) PERMISSIBLE ACTIVITIES.—A program author-
6 ized under subsection (b) may include—

7 “(1) a program that provides teachers with op-
8 portunities to work under the guidance of experi-
9 enced teachers and college faculty;

10 “(2) instruction in the use and integration of
11 data and assessments to inform and instruct class-
12 room practice; and

13 “(3) extended master teacher programs.

14 “(e) PRIORITY.—To the maximum extent practicable,
15 the Director shall ensure that each summer institute pro-
16 gram authorized under subsection (b) provides training
17 to—

18 “(1) teachers from a wide range of school dis-
19 tricts;

20 “(2) teachers from disadvantaged school dis-
21 tricts; and

22 “(3) teachers from groups underrepresented in
23 the fields of mathematics and science teaching, in-
24 cluding women and members of minority groups.

1 “(f) COORDINATION AND CONSULTATION.—The Di-
2 rector shall consult and coordinate with the Secretary of
3 Education and the Director of the National Science Foun-
4 dation regarding the implementation of the programs au-
5 thorized under subsection (b).

6 “(g) EVALUATION AND ACCOUNTABILITY PLAN.—

7 “(1) IN GENERAL.—The Director shall develop
8 an evaluation and accountability plan for the activi-
9 ties funded under this section that measures the im-
10 pact of the activities.

11 “(2) CONTENTS.—The evaluation and account-
12 ability plan shall include—

13 “(A) measurable objectives to increase the
14 number of mathematics and science teachers
15 who participate in the summer institutes in-
16 volved; and

17 “(B) measurable objectives for improved
18 student academic achievement on State mathe-
19 matics and science assessments.

20 “(3) REPORT TO CONGRESS.—The Secretary
21 shall submit to Congress with the annual budget
22 submission of the Secretary a report on how the ac-
23 tivities assisted under this section improve the math-
24 ematics and science teaching skills of participating
25 teachers.

1 “(h) AUTHORIZATION OF APPROPRIATIONS.—There
2 are authorized to be appropriated to carry out this sec-
3 tion—

4 “(1) \$25,000,000 for fiscal year 2008;

5 “(2) \$40,000,000 for fiscal year 2009;

6 “(3) \$50,000,000 for fiscal year 2010; and

7 “(4) \$75,000,000 for fiscal year 2011.

8 **“CHAPTER 5—NUCLEAR SCIENCE**
9 **EDUCATION**

10 **“SEC. 3191. NUCLEAR SCIENCE TALENT EXPANSION PRO-**
11 **GRAM FOR INSTITUTIONS OF HIGHER EDU-**
12 **CATION.**

13 “(a) PURPOSES.—The purposes of this section are—

14 “(1) to address the decline in the number of
15 and resources available to nuclear science programs
16 of institutions of higher education; and

17 “(2) to increase the number of graduates with
18 degrees in nuclear science, an area of strategic im-
19 portance to the economic competitiveness and energy
20 security of the United States.

21 “(b) DEFINITION OF NUCLEAR SCIENCE.—In this
22 section, the term ‘nuclear science’ includes—

23 “(1) nuclear science;

24 “(2) nuclear engineering;

25 “(3) nuclear chemistry;

1 “(4) radio chemistry; and

2 “(5) health physics.

3 “(c) ESTABLISHMENT.—The Secretary, acting
4 through the Director, shall establish in accordance with
5 this section a program to expand and enhance institution
6 of higher education nuclear science educational capabili-
7 ties.

8 “(d) NUCLEAR SCIENCE PROGRAM EXPANSION
9 GRANTS FOR INSTITUTIONS OF HIGHER EDUCATION.—

10 “(1) IN GENERAL.—The Secretary, acting
11 through the Director, shall award up to 3 competi-
12 tive grants for each fiscal year to institutions of
13 higher education that establish new academic degree
14 programs in nuclear science.

15 “(2) ELIGIBILITY.—To be eligible for a grant
16 under this subsection, an applicant shall partner
17 with a National Laboratory or other eligible nuclear-
18 related entity, as determined by the Secretary.

19 “(3) CRITERIA.—Criteria for a grant awarded
20 under this subsection shall be based on—

21 “(A) the potential to attract new students
22 to the program;

23 “(B) academic rigor; and

24 “(C) the ability to offer hands-on learning
25 opportunities.

1 “(4) DURATION AND AMOUNT.—

2 “(A) DURATION.—A grant under this sub-
3 section shall be 5 years in duration.

4 “(B) AMOUNT.—An institution of higher
5 education that receives a grant under this sub-
6 section shall be eligible for up to \$1,000,000 for
7 each year of the grant period.

8 “(5) USE OF FUNDS.—An institution of higher
9 education that receives a grant under this subsection
10 may use the grant to—

11 “(A) recruit and retain new faculty;

12 “(B) develop core and specialized course
13 content;

14 “(C) encourage collaboration between fac-
15 ulty and researchers in the nuclear science field;

16 or

17 “(D) support outreach efforts to recruit
18 students.

19 “(e) NUCLEAR SCIENCE COMPETITIVENESS GRANTS
20 FOR INSTITUTIONS OF HIGHER EDUCATION.—

21 “(1) IN GENERAL.—The Secretary, acting
22 through the Director shall award up to 10 competi-
23 tive grants for each fiscal year to institutions of
24 higher education with existing academic degree pro-
25 grams that produce graduates in nuclear science.

1 “(2) CRITERIA.—Criteria for a grant awarded
2 under this subsection shall be based on the potential
3 for increasing the number and academic quality of
4 graduates in the nuclear sciences who enter into ca-
5 reers in nuclear-related fields.

6 “(3) DURATION AND AMOUNT.—

7 “(A) DURATION.—A grant under this sub-
8 section shall be 5 years in duration.

9 “(B) AMOUNT.—An institution of higher
10 education that receives a grant under this sub-
11 section shall be eligible for up to \$500,000 for
12 each year of the grant period.

13 “(4) USE OF FUNDS.—An institution of higher
14 education that receives a grant under this subsection
15 may use the grant to—

16 “(A) increase the number of graduates in
17 nuclear science that enter into careers in the
18 nuclear science field;

19 “(B) enhance the teaching of advanced nu-
20 clear technologies;

21 “(C) aggressively pursue collaboration op-
22 portunities with industry and National Labora-
23 tories;

24 “(D) bolster or sustain nuclear infrastruc-
25 ture and research facilities of the institution of

1 higher education, such as research and training
 2 reactors or laboratories; and

3 “(E) provide tuition assistance and sti-
 4 pends to undergraduate and graduate students.

5 “(f) AUTHORIZATION OF APPROPRIATIONS.—

6 “(1) NUCLEAR SCIENCE PROGRAM EXPANSION
 7 GRANTS FOR INSTITUTIONS OF HIGHER EDU-
 8 CATION.—There are authorized to be appropriated
 9 to carry out subsection (d)—

10 “(A) \$9,000,000 for fiscal year 2008;

11 “(B) \$13,000,000 for fiscal year 2009;

12 “(C) \$18,000,000 for fiscal year 2010; and

13 “(D) \$22,500,000 for fiscal year 2011.

14 “(2) NUCLEAR SCIENCE COMPETITIVENESS
 15 GRANTS FOR INSTITUTIONS OF HIGHER EDU-
 16 CATION.—There are authorized to be appropriated
 17 to carry out subsection (e)—

18 “(A) \$11,000,000 for fiscal year 2008;

19 “(B) \$16,500,000 for fiscal year 2009;

20 “(C) \$22,000,000 for fiscal year 2010; and

21 “(D) \$27,500,000 for fiscal year 2011.”.

22 **SEC. 2004. DEPARTMENT OF ENERGY EARLY-CAREER RE-**
 23 **SEARCH GRANTS.**

24 (a) PURPOSE.—It is the purpose of this section to
 25 authorize research grants in the Department for early-ca-

1 reer scientists and engineers for purposes of pursuing
2 independent research.

3 (b) DEFINITION OF ELIGIBLE EARLY-CAREER RE-
4 SEARCHER.—In this section, the term “eligible early-ca-
5 reer researcher” means an individual who—

6 (1) completed a doctorate or other terminal de-
7 gree not more than 10 years before the date of ap-
8 plication for a grant authorized under this section,
9 except as provided in subsection (c)(3); and

10 (2) has demonstrated promise in the field of
11 science, technology, engineering, mathematics, com-
12 puter science, or computational science.

13 (c) GRANT PROGRAM AUTHORIZED.—

14 (1) IN GENERAL.—The Secretary shall award
15 not less than 65 grants per year to outstanding eli-
16 gible early-career researchers to support the work of
17 such researchers in the Department, particularly at
18 the National Laboratories, or other federally-funded
19 research and development centers.

20 (2) APPLICATION.—An eligible early-career re-
21 searcher who desires to receive a grant under this
22 section shall submit to the Secretary an application
23 at such time, in such manner, and accompanied by
24 such information as the Secretary may require.

1 (3) WAIVER.—The Secretary may find eligible a
2 candidate who has completed a doctorate more than
3 10 years prior to the date of application if the can-
4 didate was unable to conduct research for a period
5 of time because of extenuating circumstances, in-
6 cluding military service or family responsibilities.

7 (4) DURATION AND AMOUNT.—

8 (A) DURATION.—A grant under this sec-
9 tion shall be 5 years in duration.

10 (B) AMOUNT.—An eligible early career-re-
11 searcher who receives a grant under this section
12 shall receive up to \$100,000 for each year of
13 the grant period.

14 (5) USE OF FUNDS.—An eligible early career-
15 researcher who receives a grant under this section
16 shall use the grant funds for basic research in nat-
17 ural sciences, engineering, mathematics, or computer
18 sciences at the Department, particularly the Na-
19 tional Laboratories, or other federally-funded re-
20 search and development center.

21 (6) AUTHORIZATION OF APPROPRIATIONS.—
22 There are authorized to be appropriated to carry out
23 this section—

24 (A) \$13,000,000 for fiscal year 2008;

25 (B) \$19,500,000 for fiscal year 2009;

1 (C) \$26,000,000 for fiscal year 2010; and

2 (D) \$32,500,000 for fiscal year 2011.

3 **SEC. 2005. ADVANCED RESEARCH PROJECTS AUTHORITY-**
4 **ENERGY.**

5 (a) DEFINITIONS.—In this section:

6 (1) ADVISORY BOARD.—The term “Advisory
7 Board” means the Advisory Board established under
8 subsection (d).

9 (2) AUTHORITY.—The term “Authority” means
10 the Advanced Research Projects Authority—Energy
11 established under subsection (b).

12 (3) DIRECTOR.—The term “Director” means
13 the Director of the Authority appointed under sub-
14 section (c)(1).

15 (4) ENERGY TECHNOLOGY.—The term “energy
16 technology” means technology, including carbon-neu-
17 tral technology, used for—

18 (A) fossil energy;

19 (B) carbon sequestration;

20 (C) nuclear energy;

21 (D) renewable energy;

22 (E) energy distribution; or

23 (F) energy efficiency technology.

24 (b) ESTABLISHMENT.—The Secretary shall establish
25 an Advanced Research Projects Authority-Energy to over-

1 come the long-term and high-risk technological barriers in
2 the development of energy technologies.

3 (c) DIRECTOR.—

4 (1) APPOINTMENT.—The Secretary shall ap-
5 point a Director of the Authority.

6 (2) QUALIFICATIONS.—The Director shall be an
7 individual who, by reason of professional background
8 and experience, is especially qualified to advise the
9 Secretary on matters pertaining to long-term, high-
10 risk programs to overcome long-term and high-risk
11 technological barriers to the development of energy
12 technologies.

13 (3) DUTIES.—The Director shall—

14 (A) employ such qualified technical staff as
15 are necessary to carry out the duties of the Au-
16 thority, including providing staff for the Advi-
17 sory Committee;

18 (B) serve as the selection official for pro-
19 posals relating to energy technologies that are
20 solicited within the Department;

21 (C) develop metrics to assist in developing
22 funding criteria and for assessing the success of
23 existing programs;

1 (D) terminate programs carried out under
2 this section that are not achieving the goals of
3 the programs; and

4 (E) perform such duties relating to long-
5 term and high-risk technological barriers in the
6 development of energy technologies as are de-
7 termined to be appropriate by the Secretary.

8 (d) ADVISORY BOARD.—

9 (1) APPOINTMENT.—The Secretary shall, con-
10 sistent with the Federal Advisory Committee Act (5
11 U.S.C. App.), establish, and appoint members to, an
12 Advisory Board to make recommendations to the
13 Secretary and the Director on actions necessary to
14 carry out this section.

15 (2) QUALIFICATIONS.—The Advisory Board
16 shall consist of individuals who, by reason of profes-
17 sional background and experience, are especially
18 qualified to advise the Secretary and the Director on
19 matters pertaining to long-term and high-risk tech-
20 nological barriers in the development of energy tech-
21 nologies.

22 (3) TERM.—A member of the Advisory Board
23 shall be appointed for a term of 5 years.

24 (4) INFORMATION.—Each fiscal year, individ-
25 uals who carry out energy technology programs of

1 the Department and staff of the Authority shall pro-
2 vide to the Advisory Board written proposals and
3 oral briefings on long-term and high-risk techno-
4 logical barriers that are critical to overcome for the
5 successful development of energy technologies.

6 (5) DUTIES.—Each fiscal year, the Advisory
7 Board shall—

8 (A) recommend to the Secretary and the
9 Director—

10 (i) in order of priority, proposals of
11 energy programs of the Department that
12 are critical to overcoming long-term and
13 high-risk technological barriers to enable
14 the successful development of energy tech-
15 nologies; and

16 (ii) additional programs not covered in
17 the proposals that are critical to over-
18 coming the barriers described in clause (i);
19 and

20 (B) based on the metrics described in sub-
21 section (c)(3)(C), make recommendations to the
22 Secretary and the Directory concerning whether
23 programs funded under this section are achiev-
24 ing the goals of the programs.

1 (e) REVIEW.—Not later than 1 year after the date
2 of enactment of this Act, the Secretary shall enter into
3 an agreement with the National Academy of Sciences
4 under which the Academy shall—

5 (1) conduct reviews during each of calendar
6 years 2010 and 2012 to determine the success of the
7 activities carried out under this section; and

8 (2) submit to Congress, the Secretary, and the
9 Director a report describing the results of each re-
10 view.

11 (f) AUTHORIZATION OF APPROPRIATIONS.—There
12 are authorized to be appropriated such sums as are nec-
13 essary to carry out this section for each of fiscal years
14 2008 through 2011.

15 **SEC. 2006. AUTHORIZATION OF APPROPRIATIONS FOR THE**
16 **DEPARTMENT OF ENERGY FOR BASIC RE-**
17 **SEARCH.**

18 Section 971(b) of the Energy Policy Act of 2005 (42
19 U.S.C. 16311(b)) is amended—

20 (1) in paragraph (2), by striking “and” at the
21 end;

22 (2) in paragraph (3)—

23 (A) by striking “\$5,200,000,000” and in-
24 serting “\$4,800,000,000”; and

1 (B) by striking the period at the end and
2 inserting a semicolon; and

3 (3) by adding at the end the following:

4 “(4) \$4,945,000,000 for fiscal year 2010; and

5 “(5) \$5,265,000,000 for fiscal year 2011.”.

6 **SEC. 2007. DISCOVERY SCIENCE AND ENGINEERING INNO-**
7 **VATION INSTITUTES.**

8 (a) **IN GENERAL.**—The Secretary shall establish dis-
9 tributed, multidisciplinary institutes (referred to in this
10 section as “Institutes”) centered at National Laboratories
11 to apply fundamental science and engineering discoveries
12 to technological innovations related to the missions of the
13 Department and the global competitiveness of the United
14 States.

15 (b) **TOPICAL AREAS.**—The Institutes shall support
16 scientific and engineering research and education activities
17 on critical emerging technologies determined by the Sec-
18 retary to be essential to global competitiveness, including
19 activities related to—

20 (1) sustainable energy technologies;

21 (2) multi-scale materials and processes;

22 (3) micro- and nano-engineering;

23 (4) computational and information engineering;

24 and

25 (5) genomics and proteomics.

1 (c) PARTNERSHIPS.—In carrying out this section, the
2 Secretary shall establish partnerships between the Insti-
3 tutes and—

4 (1) institutions of higher education to—

5 (A) train undergraduate and graduate en-
6 gineering and science students;

7 (B) develop innovative educational cur-
8 ricula; and

9 (C) conduct research within the topical
10 areas described in subsection (b);

11 (2) private industry to develop innovative tech-
12 nologies within the topical areas described in sub-
13 section (b);

14 (3) State and local governments to promote re-
15 gionally-based commercialization and entrepreneur-
16 ship; and

17 (4) financing entities to guide successful tech-
18 nology commercialization.

19 (d) MERIT-BASED SELECTION.—The selection of In-
20 stitutes under this section shall be merit-based and made
21 through an open, competitive selection process.

22 (e) RESTRICTION.—Not more than 3 Institutes shall
23 receive grants for a fiscal year.

24 (f) REVIEW.—The Secretary shall enter into an
25 agreement with the National Academy of Sciences under

1 which the Academy shall, not later than 3 and 6 years
2 after the date of enactment of this Act—

3 (1) review the performance of the Institutes
4 under this section; and

5 (2) submit to Congress and the Secretary a re-
6 port describing the results of the review.

7 (g) AUTHORIZATION OF APPROPRIATIONS.—There is
8 authorized to be appropriated to carry out the activities
9 of each Institute selected under this section \$10,000,000
10 for each of fiscal years 2008 through 2011.

11 **SEC. 2008. PROTECTING AMERICA'S COMPETITIVE EDGE**
12 **(PACE) GRADUATE FELLOWSHIP PROGRAM.**

13 (a) DEFINITION OF ELIGIBLE STUDENT.—In this
14 section, the term “eligible student” means a student who
15 attends an institution of higher education that offers a
16 doctoral degree in a field relevant to a mission area of
17 the Department.

18 (b) ESTABLISHMENT.—The Secretary shall establish
19 a graduate fellowship program for eligible students pur-
20 suing a doctoral degree in a mission area of the Depart-
21 ment.

22 (c) SELECTION.—

23 (1) IN GENERAL.—The Secretary shall award
24 fellowships to eligible students under this section
25 through a competitive merit review process (involv-

1 ing written and oral interviews) that will result in a
2 wide distribution of awards throughout the United
3 States.

4 (2) CRITERIA.—The Secretary shall establish
5 selection criteria for awarding fellowships under this
6 section that require an eligible student to—

7 (A) pursue a field of science or engineering
8 of importance to the mission area of the De-
9 partment;

10 (B) rank in the upper 10 percent of the
11 class of the eligible student;

12 (C) demonstrate to the Secretary—

13 (i) the capacity to understand tech-
14 nical topics related to the fellowship that
15 can be derived from the first principles of
16 the technical topics;

17 (ii) imagination and creativity;

18 (iii) leadership skills in organizations
19 or intellectual endeavors, demonstrated
20 through awards and past experience; and

21 (iv) excellent verbal and communica-
22 tion skills to explain, defend, and dem-
23 onstrate an understanding of technical
24 subjects related to the fellowship; and

1 (D) be a citizen or legal permanent resi-
2 dent of the United States.

3 (d) AWARDS.—

4 (1) AMOUNT.—A fellowship awarded under this
5 section shall—

6 (A) provide an annual living stipend; and

7 (B) cover—

8 (i) graduate tuition at an institution
9 of higher education; and

10 (ii) incidental expenses associated
11 with curricula and research at the institu-
12 tion of higher education (including books,
13 computers and software).

14 (2) DURATION.—A fellowship awarded under
15 this section shall be for a period of not greater than
16 5 years.

17 (3) PORTABILITY.—A fellowship awarded under
18 this section shall be portable with the fellow.

19 (e) ADMINISTRATION.—The Secretary (acting
20 through the Director of Mathematics, Science, and Engi-
21 neering Education)—

22 (1) shall administer the program established
23 under this section; and,

1 (2) may enter into a contract with a nonprofit
2 entity to administer the program, including the se-
3 lection and award of fellowships.

4 (f) AUTHORIZATION OF APPROPRIATIONS.—

5 (1) FELLOWSHIPS.—There are authorized to be
6 appropriated to award fellowships under this sec-
7 tion—

8 (A) \$9,300,000 for 200 fellowships for fis-
9 cal year 2008;

10 (B) \$14,500,000 for 300 fellowships for
11 fiscal year 2009 (including non-expiring fellow-
12 ships for prior fiscal years);

13 (C) \$25,000,000 for 500 fellowships for
14 fiscal year 2010 (including non-expiring fellow-
15 ships for prior fiscal years); and

16 (D) \$35,500,000 for 700 fellowships for
17 fiscal year 2011 (including non-expiring fellow-
18 ships for prior fiscal years).

19 (2) ADMINISTRATION.—There are authorized to
20 be appropriated for administrative expenses incurred
21 in carrying out this section—

22 (A) \$1,000,000 for fiscal year 2008;

23 (B) \$1,500,000 for fiscal year 2009;

24 (C) \$2,500,000 for fiscal year 2010; and

25 (D) \$3,500,000 for fiscal year 2011.

1 **SEC. 2009. TITLE IX COMPLIANCE.**

2 (a) IN GENERAL.—Not later than 180 days after the
3 date of enactment of this Act, the Secretary of Energy
4 shall submit to the Committee on Energy and Commerce
5 of the House of Representatives and the Committee on
6 Energy and Natural Resources of the Senate a report that
7 describes actions taken by the Department of Energy to
8 implement the recommendations in the report of the Gov-
9 ernment Accountability Office numbered 04–639.

10 (b) COMPLIANCE.—To comply with title IX of the
11 Education Amendments of 1972 (20 U.S.C. 1681 et seq.),
12 the Secretary of Energy shall annually conduct compliance
13 reviews of at least 2 recipients of Department of Energy
14 grants.

15 **SEC. 2010. HIGH-RISK, HIGH-REWARD RESEARCH.**

16 (a) DEFINITION OF HIGH-RISK, HIGH-REWARD RE-
17 SEARCH.—In this section, the term “high-risk, high re-
18 ward research” means research that—

19 (1) has the potential for yielding results with
20 far-ranging implications;

21 (2) is too novel or spans too diverse a range of
22 disciplines to fare well in the traditional peer review
23 process; and

24 (3) is supportive of the missions of the spon-
25 soring agency.

26 (b) ESTABLISHMENT OF GRANT PROGRAMS.—

1 (1) ENERGY GRANT PROGRAM.—The Secretary
2 shall establish a grant program to encourage the
3 conduct of high-risk, high-reward research at the
4 Department.

5 (2) GEOLOGICAL GRANT PROGRAM.—The Direc-
6 tor of the United States Geological Survey shall es-
7 tablish a grant program to encourage the conduct of
8 high-risk, high-reward research at the United States
9 Geological Survey.

10 **SEC. 2011. DISTINGUISHED SCIENTIST PROGRAM.**

11 (a) PURPOSE.—The purpose of this section is to pro-
12 mote scientific and academic excellence through collabora-
13 tions between institutions of higher education and the Na-
14 tional Laboratories.

15 (b) ESTABLISHMENT.—The Secretary shall establish
16 a program to support the joint appointment of distin-
17 guished scientists by institutions of higher education and
18 National Laboratories.

19 (c) QUALIFICATIONS.—Successful candidates under
20 this section shall be persons who, by reason of professional
21 background and experience, are able to bring international
22 recognition to the appointing institution of higher edu-
23 cation and National Laboratory in their field of scientific
24 endeavor.

1 (d) SELECTION.—A distinguished scientist appointed
2 under this section shall be selected through an open, com-
3 petitive process.

4 (e) APPOINTMENT.—

5 (1) INSTITUTION OF HIGHER EDUCATION.—An
6 appointment by an institution of higher education
7 under this section shall be filled within the tenure al-
8 lotment of the institution of higher education at a
9 minimum rank of professor.

10 (2) NATIONAL LABORATORY.—An appointment
11 by a National Laboratory under this section shall be
12 at the rank of the highest grade of distinguished sci-
13 entist or technical staff of the National Laboratory.

14 (f) DURATION.—An appointment under this section
15 shall be for 6 years, consisting of 2 3-year funding allot-
16 ments.

17 (g) USE OF FUNDS.—Funds made available under
18 this section may be used for—

19 (1) the salary of the distinguished scientist and
20 support staff;

21 (2) undergraduate, graduate, and post-doctoral
22 appointments;

23 (3) research-related equipment;

24 (4) professional travel; and

1 (5) such other requirements as the Director de-
2 termines are necessary to carry out the purpose of
3 the program.

4 (h) REVIEW.—

5 (1) IN GENERAL.—The appointment of a distin-
6 guished scientist under this section shall be reviewed
7 at the end of the first 3-year allotment for the dis-
8 tinguished scientist through an open peer-review
9 process to determine whether the appointment is
10 meeting the purpose of this section under subsection
11 (a).

12 (2) FUNDING.—Funding of the appointment of
13 the distinguished scientist for the second 3-year al-
14 lotment shall be determined based on the review con-
15 ducted under paragraph (1).

16 (i) COST SHARING.—To be eligible for assistance
17 under this section, an appointing institution of higher edu-
18 cation shall pay at least 50 percent of the total costs of
19 the appointment.

20 (j) AUTHORIZATION OF APPROPRIATIONS.—There
21 are authorized to be appropriated to carry out this sec-
22 tion—

23 (1) \$30,000,000 for fiscal year 2008 (to sup-
24 port up to 30 appointments under this section);

1 (2) \$60,000,000 for fiscal year 2009 (to sup-
2 port up to 60 such appointments); and

3 (3) \$100,000,000 for each of fiscal years 2010
4 and 2011 (to support up to 100 such appointments).

5 **DIVISION C—EDUCATION**

6 **SEC. 3001. FINDINGS.**

7 Congress makes the following findings:

8 (1) A well-educated population is essential to
9 retaining America’s competitiveness in the global
10 economy.

11 (2) The United States needs to build on and ex-
12 pand the impact of existing programs by taking ad-
13 ditional, well-coordinated steps to ensure that all
14 students are able to obtain the knowledge the stu-
15 dents need to obtain postsecondary education and
16 participate successfully in the workforce or the
17 Armed Forces.

18 (3) The next steps must be informed by inde-
19 pendent information on the effectiveness of current
20 programs in science, technology, engineering, and
21 mathematics education, and by identification of best
22 practices that can be replicated.

23 (4) Teacher preparation and elementary school
24 and secondary school programs and activities must
25 be aligned with the requirements of the Elementary

1 and Secondary Education Act of 1965 (20 U.S.C.
2 6301 et seq.) and the requirements of the Higher
3 Education Act of 1965 (20 U.S.C. 1001 et seq.).

4 (5) The ever increasing knowledge and skill de-
5 mands of the 21st century require that secondary
6 school preparation and requirements be better
7 aligned with the knowledge and skills needed to suc-
8 ceed in postsecondary education and the workforce,
9 and States need better data systems to track edu-
10 cational achievement from prekindergarten through
11 baccalaureate degrees.

12 **SEC. 3002. DEFINITIONS.**

13 (a) ESEA DEFINITIONS.—Unless otherwise specified
14 in this division, the terms used in this division have the
15 meanings given the terms in section 9101 of the Elemen-
16 tary and Secondary Education Act of 1965 (20 U.S.C.
17 7801).

18 (b) OTHER DEFINITIONS.—In this division:

19 (1) CRITICAL FOREIGN LANGUAGE.—The term
20 “critical foreign language” means a foreign language
21 that the Secretary determines, in consultation with
22 the heads of such Federal departments and agencies
23 as the Secretary determines appropriate, is critical
24 to the national security and economic competitive-
25 ness of the United States.

1 (2) SECRETARY.—The term “Secretary” means
2 the Secretary of Education.

3 **TITLE I—TEACHER ASSISTANCE**
4 **Subtitle A—Teachers for a**
5 **Competitive Tomorrow**

6 **SEC. 3111. PURPOSE.**

7 The purpose of this subtitle is—

8 (1) to develop and implement programs to pro-
9 vide integrated courses of study in mathematics,
10 science, engineering, or critical foreign languages,
11 and teacher education, that lead to a baccalaureate
12 degree with concurrent teacher certification; and

13 (2) to develop and implement 2- or 3-year part-
14 time master’s degree programs in mathematics,
15 science, or critical foreign language education for
16 teachers in order to enhance the teachers’ content
17 knowledge and pedagogical skills.

18 **SEC. 3112. DEFINITIONS.**

19 In this subtitle:

20 (1) CHILDREN FROM LOW-INCOME FAMILIES.—
21 The term “children from low-income families”
22 means children described in section 1124(c)(1)(A) of
23 the Elementary and Secondary Education Act of
24 1965 (20 U.S.C. 6333(c)(1)(A)).

1 (2) ELIGIBLE RECIPIENT.—The term “eligible
2 recipient” means an institution of higher education
3 that receives grant funds under this subtitle on be-
4 half of a department of mathematics, engineering,
5 science, or critical foreign language for use in car-
6 rying out activities assisted under this subtitle.

7 (3) HIGH-NEED LOCAL EDUCATIONAL AGEN-
8 CY.—The term “high-need local educational agency”
9 means a local educational agency or educational
10 service agency—

11 (A)(i) that serves not fewer than 10,000
12 children from low-income families;

13 (ii) for which not less than 20 percent of
14 the children served by the agency are children
15 from low-income families; or

16 (iii) with a total of less than 600 students
17 in average daily attendance at the schools that
18 are served by the agency and all of whose
19 schools are designated with a school locale code
20 of 6, 7, or 8, as determined by the Secretary;
21 and

22 (B)(i) for which there is a high percentage
23 of teachers providing instruction in academic
24 subject areas or grade levels for which the
25 teachers are not highly qualified; or

1 (ii) for which there is a high teacher turn-
2 over rate or a high percentage of teachers with
3 emergency, provisional, or temporary certifi-
4 cation or licensure.

5 (4) HIGHLY QUALIFIED.—The term “highly
6 qualified” has the meaning given such term in sec-
7 tion 9101 of the Elementary and Secondary Edu-
8 cation Act of 1965 (20 U.S.C. 7801) and, with re-
9 spect to special education teachers, in section 602 of
10 the Individuals with Disabilities Education Act (20
11 U.S.C. 1401).

12 (5) PARTNERSHIP.—The term “partnership”
13 means a partnership that—

14 (A) shall include—

15 (i) an eligible recipient;

16 (ii) a department within the eligible
17 recipient that provides a program of study
18 in mathematics, engineering, science, or
19 critical foreign languages;

20 (iii)(I) a school or department within
21 the eligible recipient that provides a teach-
22 er preparation program; or

23 (II) a 2-year institution of higher edu-
24 cation that has a teacher preparation offer-

1 ing or a dual enrollment program with the
2 eligible recipient; and

3 (iv) not less than 1 high-need local
4 educational agency and a public school or
5 a consortium of public schools served by
6 the agency; and

7 (B) may include a nonprofit organization
8 that has the capacity to provide expertise or
9 support to meet the purposes of this subtitle.

10 (6) TEACHING SKILLS.—The term “teaching
11 skills” means the ability to—

12 (A) increase student achievement;

13 (B) effectively convey and explain academic
14 subject matter;

15 (C) employ strategies that—

16 (i) are based on scientifically based re-
17 search;

18 (ii) are specific to academic subject
19 matter; and

20 (iii) focus on the identification of, and
21 tailoring of academic instruction to, stu-
22 dents’ specific learning needs, particularly
23 children with disabilities, students who are
24 limited English proficient, and students
25 who are gifted and talented;

1 (D) conduct ongoing assessment of student
2 learning;

3 (E) effectively manage a classroom; and

4 (F) communicate and work with parents
5 and guardians, and involve parents and guard-
6 ians in their children's education.

7 **SEC. 3113. PROGRAMS FOR BACCALAUREATE DEGREES IN**
8 **MATHEMATICS, SCIENCE, ENGINEERING, OR**
9 **CRITICAL FOREIGN LANGUAGES, WITH CON-**
10 **CURRENT TEACHER CERTIFICATION.**

11 (a) PROGRAM AUTHORIZED.—From the amounts
12 made available to carry out this section under section
13 3116(1) and not reserved under section 3115(d) for a fis-
14 cal year, the Secretary is authorized to award grants, on
15 a competitive basis, to eligible recipients to enable partner-
16 ships served by the eligible recipients to develop and imple-
17 ment programs to provide courses of study in mathe-
18 matics, science, engineering, or critical foreign languages
19 that—

20 (1) are integrated with teacher education; and

21 (2) lead to a baccalaureate degree with concur-
22 rent teacher certification.

23 (b) APPLICATION.—Each eligible recipient desiring a
24 grant under this section shall submit an application to the

1 Secretary at such time and in such manner as the Sec-
2 retary may require. Each application shall—

3 (1) describe the program for which assistance is
4 sought;

5 (2) describe how a department of mathematics,
6 science, engineering, or a critical foreign language
7 participating in the partnership will ensure signifi-
8 cant collaboration with a teacher preparation pro-
9 gram in the development of undergraduate degrees
10 in mathematics, science, engineering, or a critical
11 foreign language, with concurrent teacher certifi-
12 cation, including providing student teaching and
13 other clinical classroom experiences;

14 (3) describe the high-quality research, labora-
15 tory, or internship experiences, integrated with
16 coursework, that will be provided under the pro-
17 gram;

18 (4) describe how members of groups that are
19 underrepresented in the teaching of mathematics,
20 science, or critical foreign languages will be encour-
21 aged to participate in the program;

22 (5) describe how program participants will be
23 encouraged to teach in schools determined by the
24 partnership to be most in need, and what assistance

1 in finding employment in such schools will be pro-
2 vided;

3 (6) describe the ongoing activities and services
4 that will be provided to graduates of the program;

5 (7) describe how the activities of the partner-
6 ship will be coordinated with any activities funded
7 through other Federal grants, and how the partner-
8 ship will continue the activities assisted under the
9 program when the grant period ends;

10 (8) describe how the partnership will assess the
11 content knowledge and teaching skills of the pro-
12 gram participants; and

13 (9) provide any other information the Secretary
14 may reasonably require.

15 (c) AUTHORIZED ACTIVITIES.—

16 (1) IN GENERAL.—Each eligible recipient re-
17 ceiving a grant under this section shall use the grant
18 funds to enable a partnership to develop and imple-
19 ment a program to provide courses of study in math-
20 ematics, science, engineering, or a critical foreign
21 language that—

22 (A) are integrated with teacher education
23 programs that promote effective teaching skills;
24 and

1 (B) lead to a baccalaureate degree in
2 mathematics, science, engineering, or a critical
3 foreign language with concurrent teacher cer-
4 tification.

5 (2) PROGRAM REQUIREMENTS.—The program
6 shall—

7 (A) provide high-quality research, labora-
8 tory, or internship experiences for program par-
9 ticipants;

10 (B) provide student teaching or other clin-
11 ical classroom experiences that—

12 (i) are integrated with coursework;

13 and

14 (ii) lead to the participants' ability to
15 demonstrate effective teaching skills;

16 (C) if implementing a program in which
17 program participants are prepared to teach
18 mathematics or science courses, include strate-
19 gies for improving student literacy;

20 (D) encourage the participation of individ-
21 uals who are members of groups that are
22 underrepresented in the teaching of mathe-
23 matics, science or critical foreign languages;

24 (E) encourage participants to teach in
25 schools determined by the partnership to be

1 most in need, and actively assist the partici-
2 pants in finding employment in such schools;

3 (F) offer training in the use of and inte-
4 gration of educational technology;

5 (G) collect data regarding and evaluate,
6 using measurable objectives and benchmarks,
7 the extent to which the program succeeded in—

8 (i) increasing the percentage of highly
9 qualified mathematics, science, or critical
10 foreign language teachers, including in-
11 creasing the percentage of such teachers
12 teaching in those schools determined by
13 the partnership to be most in need;

14 (ii) improving student academic
15 achievement in mathematics and science;

16 (iii) increasing the number of students
17 in secondary schools enrolled in upper level
18 mathematics and science courses; and

19 (iv) increasing the numbers of elemen-
20 tary school, middle school, and secondary
21 school students enrolled in and continuing
22 in critical foreign language courses;

23 (H) collect data on the employment place-
24 ment of all graduates of the program, including

1 information on how many graduates are teach-
2 ing and in what kinds of schools;

3 (I) provide ongoing activities and services
4 to graduates of the program who teach elemen-
5 tary school, middle school, or secondary school,
6 by—

7 (i) keeping the graduates informed of
8 the latest developments in their respective
9 academic fields; and

10 (ii) supporting the graduates of the
11 program who are employed in schools in
12 the local educational agency participating
13 in the partnership during the initial years
14 of teaching through—

15 (I) induction programs;

16 (II) promotion of effective teach-
17 ing skills; and

18 (III) providing opportunities for
19 regular professional development; and

20 (J) develop recommendations to improve
21 the teacher preparation program participating
22 in the partnership.

23 (d) ANNUAL REPORT.—Each eligible recipient receiv-
24 ing a grant under this section shall collect and report to

1 the Secretary annually such information as the Secretary
2 may reasonably require, including—

3 (1) the number of participants in the program;

4 (2) information on the academic majors of par-
5 ticipating students;

6 (3) the race, gender, income, and disability sta-
7 tus of program participants;

8 (4) the employment placement of program par-
9 ticipants as teachers in schools determined by the
10 partnership to be most in need;

11 (5) the extent to which the program succeeded
12 in meeting the objectives and benchmarks described
13 in subsection (c)(2)(G); and

14 (6) the data collected under subparagraphs (G)
15 and (H) of subsection (c)(2).

16 (e) TECHNICAL ASSISTANCE.—From the funds made
17 available under section 3116(1), the Secretary may pro-
18 vide technical assistance to an eligible recipient developing
19 a baccalaureate degree program with concurrent teacher
20 certification, including technical assistance provided
21 through a grant or contract awarded on a competitive
22 basis to an institution of higher education or a technical
23 assistance center.

1 **SEC. 3114. PROGRAMS FOR MASTER'S DEGREES IN MATHE-**
2 **MATICS, SCIENCE, OR CRITICAL FOREIGN**
3 **LANGUAGES EDUCATION.**

4 (a) PROGRAM AUTHORIZED.—From the amounts
5 made available to carry out this section under section
6 3116(2) and not reserved under section 3115(d) for a fis-
7 cal year, the Secretary is authorized to award grants, on
8 a competitive basis, to eligible recipients to enable the
9 partnerships served by the eligible recipients to develop
10 and implement 2- or 3-year part-time master's degree pro-
11 grams in mathematics, science, or critical foreign language
12 education for teachers in order to enhance the teacher's
13 content knowledge and teaching skills.

14 (b) APPLICATION.—Each eligible recipient desiring a
15 grant under this section shall submit an application to the
16 Secretary at such time and in such manner as the Sec-
17 retary may require. Each application shall describe—

18 (1) how a department of mathematics, science,
19 or a critical foreign language will ensure significant
20 collaboration with a teacher preparation program in
21 the development of master's degree programs in
22 mathematics, science, or a critical foreign language
23 for teachers that enhance the teachers' content
24 knowledge and teaching skills;

25 (2) the role of the local educational agency in
26 the partnership in developing and administering the

1 program and how feedback from the local edu-
2 cational agency, school, and participants will be used
3 to improve the program;

4 (3) how the program will help increase the per-
5 centage of highly qualified mathematics, science, or
6 critical foreign language teachers, including increas-
7 ing the percentage of such teachers teaching in
8 schools determined by the partnership to be most in
9 need;

10 (4) how the program will—

11 (A) improve student academic achievement
12 in mathematics and science and increase the
13 number of students taking upper-level courses
14 in such subjects; or

15 (B) increase the numbers of elementary
16 school, middle school, and secondary school stu-
17 dents enrolled and continuing in critical foreign
18 language courses;

19 (5) how the program will prepare teachers to
20 become more effective mathematics, science, or crit-
21 ical foreign language teachers;

22 (6) how the program will prepare teachers to
23 assume leadership roles in their schools;

24 (7) how teachers who are members of groups
25 that are underrepresented in the teaching of mathe-

1 matics, science, or critical foreign languages and
2 teachers from schools determined by the partnership
3 to be most in need will be encouraged to apply for
4 and participate in the program;

5 (8) the ongoing activities and services that will
6 be provided to graduates of the program;

7 (9) how the partnership will continue the activi-
8 ties assisted under the grant when the grant period
9 ends; and

10 (10) how the partnership will assess, during the
11 program, the content knowledge and teaching skills
12 of teachers participating in the program.

13 (c) AUTHORIZED ACTIVITIES.—Each eligible recipi-
14 ent receiving a grant under this section shall use the grant
15 funds to develop and implement a 2- or 3-year part-time
16 master’s degree program in mathematics, science, or crit-
17 ical foreign language education for teachers in order to
18 enhance the teachers’ content knowledge and teaching
19 skills. The program shall—

20 (1) promote effective teaching skills so the
21 teachers participating in the program become more
22 effective mathematics, science, or critical foreign lan-
23 guage teachers;

24 (2) prepare teachers to assume leadership roles
25 in their schools by participating in activities such as

1 teacher mentoring, development of curricula that in-
2 tegrate state of the art applications of mathematics
3 and science into the classroom, working with school
4 administrators in establishing in-service professional
5 development of teachers, and assisting in evaluating
6 data and assessments to improve student academic
7 achievement;

8 (3) use high-quality research, laboratory, or in-
9 ternship experiences for program participants that
10 are integrated with coursework;

11 (4) provide student teaching or clinical class-
12 room experience;

13 (5) if implementing a program in which partici-
14 pants are prepared to teach mathematics or science
15 courses, provide strategies for improving student lit-
16 eracy;

17 (6) align the content knowledge in the master's
18 degree program with challenging student academic
19 achievement standards and challenging academic
20 content standards established by the State in which
21 the program is conducted;

22 (7) encourage the participation of—

23 (A) individuals who are members of groups
24 that are underrepresented in the teaching of

1 mathematics, science, or critical foreign lan-
2 guages; and

3 (B) teachers teaching in schools deter-
4 mined by the partnership to be most in need;

5 (8) offer tuition assistance, based on need, as
6 appropriate; and

7 (9) evaluate and report on the impact of the
8 program, in accordance with subsection (d).

9 (d) EVALUATION AND REPORT.—Each eligible recipi-
10 ent receiving a grant under this section shall evaluate,
11 using measurable objectives and benchmarks, and provide
12 an annual report to the Secretary regarding, the extent
13 to which the program assisted under this section suc-
14 ceeded in increasing the following:

15 (1) The number and percentage of mathe-
16 matics, science, or critical foreign language teachers
17 who have a master's degree and meet 1 or more of
18 the following requirements:

19 (A) Are teaching in schools determined by
20 the partnership to be most in need, and taught
21 in such schools prior to participation in the pro-
22 gram.

23 (B) Are teaching in schools determined by
24 the partnership to be most in need, and did not

1 teach in such schools prior to participation in
2 the program.

3 (C) Are members of a group underrep-
4 resented in the teaching of mathematics,
5 science, or a critical foreign language.

6 (2) The retention of teachers who participate in
7 the program.

8 **SEC. 3115. GENERAL PROVISIONS.**

9 (a) DURATION OF GRANTS.—The Secretary shall
10 award each grant under this subtitle for a period of not
11 more than 5 years.

12 (b) MATCHING REQUIREMENT.—Each eligible recipi-
13 ent that receives a grant under this section shall provide,
14 from non-Federal sources, an amount equal to 50 percent
15 of the amount of the grant (which may be provided in cash
16 or in kind) to carry out the activities supported by the
17 grant.

18 (c) SUPPLEMENT, NOT SUPPLANT.—Grant funds
19 provided under this subtitle shall be used to supplement,
20 and not supplant, other Federal or State funds.

21 (d) EVALUATION.—From amounts made available for
22 any fiscal year under section 3116, the Secretary shall re-
23 serve such sums as may be necessary—

24 (1) to provide for the conduct of an annual
25 independent evaluation, by grant or by contract, of

1 the activities assisted under this subtitle, which shall
2 include an assessment of the impact of the activities
3 on student academic achievement; and

4 (2) to prepare and submit an annual report on
5 the results of the evaluation described in paragraph
6 (1) to the Committee on Health, Education, Labor,
7 and Pensions of the Senate, the Committee on Edu-
8 cation and the Workforce of the House of Rep-
9 resentatives, and the Committees on Appropriations
10 of the Senate and House of Representatives.

11 **SEC. 3116. AUTHORIZATION OF APPROPRIATIONS.**

12 There are authorized to be appropriated to carry out
13 this section \$210,000,000 for fiscal year 2008, and such
14 sums as may be necessary for each of the 3 succeeding
15 fiscal years, of which—

16 (1) 57.1 percent shall be available to carry out
17 section 3113 for fiscal year 2008 and each suc-
18 ceeding fiscal year; and

19 (2) 42.9 percent shall be available to carry out
20 section 3114 for fiscal year 2008 and each suc-
21 ceeding fiscal year.

1 **Subtitle B—Advanced Placement**
2 **and International Baccalaureate**
3 **Programs**

4 **SEC. 3121. PURPOSE.**

5 It is the purpose of this subtitle—

6 (1) to raise academic achievement through Ad-
7 vanced Placement and International Baccalaureate
8 programs by increasing, by 70,000, over a 4-year pe-
9 riod beginning in 2008, the number of teachers serv-
10 ing high-need schools who are qualified to teach Ad-
11 vanced Placement or International Baccalaureate
12 courses in mathematics, science, and critical foreign
13 languages;

14 (2) to increase, to 700,000 per year, the num-
15 ber of students attending high-need schools who—

16 (A) take and score a 3, 4, or 5 on an Ad-
17 vanced Placement examination in mathematics,
18 science, or a critical foreign language adminis-
19 tered by the College Board; or

20 (B) achieve a passing score on an examina-
21 tion administered by the International Bacca-
22 laureate Organization in such a subject;

23 (3) to increase the availability of, and enroll-
24 ment in, Advanced Placement or International Bac-
25 calaureate courses in mathematics, science, and crit-

1 ical foreign languages, and pre-Advanced Placement
2 or pre-International Baccalaureate courses in such
3 subjects, in high-need schools; and

4 (4) to support statewide efforts to increase the
5 availability of, and enrollment in, Advanced Place-
6 ment or International Baccalaureate courses in
7 mathematics, science, and critical foreign languages,
8 and pre-Advanced Placement or pre-International
9 Baccalaureate courses in such subjects, in high-need
10 schools.

11 **SEC. 3122. DEFINITIONS.**

12 In this subtitle:

13 (1) **ADVANCED PLACEMENT OR INTERNATIONAL**
14 **BACCALAUREATE COURSE.**—The term “Advanced
15 Placement or International Baccalaureate course”
16 means a course of college-level instruction provided
17 to middle or secondary school students, terminating
18 in an examination administered by the College
19 Board or the International Baccalaureate Organiza-
20 tion, or another such examination approved by the
21 Secretary.

22 (2) **ELIGIBLE ENTITY.**—The term “eligible enti-
23 ty” means—

24 (A) a State educational agency;

25 (B) a local educational agency; or

- 1 (C) a partnership consisting of—
- 2 (i) a national, regional, or statewide
- 3 nonprofit organization, with expertise and
- 4 experience in providing Advanced Place-
- 5 ment or International Baccalaureate serv-
- 6 ices; and
- 7 (ii) a State educational agency or
- 8 local educational agency.
- 9 (3) LOW-INCOME STUDENT.—The term “low-in-
- 10 come student” has the meaning given the term “low-
- 11 income individual” in section 1707(3) of the Ele-
- 12 mentary and Secondary Education Act of 1965 (20
- 13 U.S.C. 6537(3)).
- 14 (4) HIGH CONCENTRATION OF LOW-INCOME
- 15 STUDENTS.—The term “high concentration of low-
- 16 income students” has the meaning given the term in
- 17 section 1707(2) of the Elementary and Secondary
- 18 Education Act of 1965 (20 U.S.C. 6537(2)).
- 19 (5) HIGH-NEED LOCAL EDUCATIONAL AGEN-
- 20 CY.—The term “high-need local educational agency”
- 21 means a local educational agency or educational
- 22 service agency described in 3112(3)(A).
- 23 (6) HIGH-NEED SCHOOL.—The term “high-need
- 24 school” means a middle school or secondary school—

1 (A) with a pervasive need for Advanced
2 Placement or International Baccalaureate
3 courses in mathematics, science, or critical for-
4 eign languages, or for additional Advanced
5 Placement or International Baccalaureate
6 courses in such a subject; and

7 (B)(i) with a high concentration of low-in-
8 come students; or

9 (ii) designated with a school locale code of
10 6, 7 or 8, as determined by the Secretary.

11 **SEC. 3123. ADVANCED PLACEMENT AND INTERNATIONAL**
12 **BACCALAUREATE PROGRAMS.**

13 (a) PROGRAM AUTHORIZED.—From the amounts ap-
14 propriated under subsection (l), the Secretary is author-
15 ized to award grants, on a competitive basis, to eligible
16 entities to enable the eligible entities to carry out the au-
17 thorized activities described in subsection (g).

18 (b) DURATION OF GRANTS.—The Secretary may
19 award grants under this section for a period of not more
20 than 5 years.

21 (c) COORDINATION.—The Secretary shall coordinate
22 the activities carried out under this section with the activi-
23 ties carried out under section 1705 of the Elementary and
24 Secondary Education Act of 1965 (20 U.S.C. 6535).

1 (d) PRIORITY.—In awarding grants under this sec-
2 tion, the Secretary shall give priority to eligible entities
3 that are part of a statewide strategy for increasing the
4 availability of Advanced Placement or International Bac-
5 calaureate courses in mathematics, science, and critical
6 foreign languages, and pre-Advanced Placement or pre-
7 International Baccalaureate courses in such subjects, in
8 high-need schools.

9 (e) EQUITABLE DISTRIBUTION.—The Secretary, to
10 the extent practicable, shall—

11 (1) ensure an equitable geographic distribution
12 of grants under this section among the States; and

13 (2) promote an increase in participation in Ad-
14 vanced Placement or International Baccalaureate
15 mathematics, science, and critical foreign language
16 courses and examinations in all States.

17 (f) APPLICATION.—

18 (1) IN GENERAL.—Each eligible entity desiring
19 a grant under this section shall submit an applica-
20 tion to the Secretary at such time, in such manner,
21 and containing such information as the Secretary
22 may reasonably require.

23 (2) CONTENTS.—The application shall, at a
24 minimum, include a description of—

1 (A) the goals and objectives for the
2 project, including—

3 (i) increasing the number of teachers
4 serving high-need schools who are qualified
5 to teach Advanced Placement or Inter-
6 national Baccalaureate courses in mathe-
7 matics, science, or critical foreign lan-
8 guages;

9 (ii) increasing the number of qualified
10 teachers serving high-need schools who are
11 teaching Advanced Placement or Inter-
12 national Baccalaureate courses in mathe-
13 matics, science, or critical foreign lan-
14 guages to students in the high-need
15 schools;

16 (iii) increasing the number of Ad-
17 vanced Placement or International Bacca-
18 laureate courses in mathematics, science,
19 and critical foreign languages that are
20 available to students attending high-need
21 schools; and

22 (iv) increasing the number of students
23 attending a high-need school, particularly
24 low-income students, who enroll in and
25 pass—

1 (I) Advanced Placement or Inter-
2 national Baccalaureate courses in
3 mathematics, science, or critical for-
4 eign languages; and

5 (II) pre-Advanced Placement or
6 pre-International Baccalaureate
7 courses in such a subject (where pro-
8 vided in accordance with subpara-
9 graph (B));

10 (B) how the eligible entity will ensure that
11 students have access to courses, including pre-
12 Advanced Placement and pre-International Bac-
13 calaureate courses, that will prepare the stu-
14 dents to enroll and succeed in Advanced Place-
15 ment or International Baccalaureate courses in
16 mathematics, science, or critical foreign lan-
17 guages;

18 (C) how the eligible entity will provide pro-
19 fessional development for teachers assisted
20 under this section;

21 (D) how the eligible entity will ensure that
22 teachers serving high-need schools are qualified
23 to teach Advanced Placement or International
24 Baccalaureate courses in mathematics, science,
25 or critical foreign languages;

1 (E) how the eligible entity will provide for
2 the involvement of business and community or-
3 ganizations and other entities, including institu-
4 tions of higher education, in the activities to be
5 assisted; and

6 (F) how the eligible entity will use funds
7 received under this section, including how the
8 eligible entity will evaluate the success of its
9 project.

10 (g) AUTHORIZED ACTIVITIES.—

11 (1) IN GENERAL.—Each eligible entity that re-
12 ceives a grant under this section shall use the grant
13 funds to carry out activities designed to increase—

14 (A) the number of qualified teachers serv-
15 ing high-need schools who are teaching Ad-
16 vanced Placement or International Bacca-
17 laureate courses in mathematics, science, or
18 critical foreign languages; and

19 (B) the number of students attending
20 high-need schools who enroll in, and pass, the
21 examinations for such Advanced Placement or
22 International Baccalaureate courses.

23 (2) PERMISSIVE ACTIVITIES.—The activities de-
24 scribed in paragraph (1) may include—

1 (A) teacher professional development, in
2 order to expand the pool of teachers in the par-
3 ticipating State, local educational agency, or
4 high-need school who are qualified to teach Ad-
5 vanced Placement or International Baccalaureate
6 courses in mathematics, science, or
7 critical foreign languages;

8 (B) pre-Advanced Placement or pre-Inter-
9 national Baccalaureate course development and
10 professional development;

11 (C) coordination and articulation between
12 grade levels to prepare students to enroll and
13 succeed in Advanced Placement or International
14 Baccalaureate courses in mathematics, science,
15 or critical foreign languages;

16 (D) purchase of instructional materials;

17 (E) activities to increase the availability of,
18 and participation in, online Advanced Place-
19 ment or International Baccalaureate courses in
20 mathematics, science, and critical foreign lan-
21 guages;

22 (F) reimbursing low-income students at-
23 tending high-need schools for part or all of the
24 cost of Advanced Placement or International
25 Baccalaureate examination fees;

1 (G) carrying out subsection (j), relating to
2 collecting and reporting data;

3 (H) in the case of a State educational
4 agency that receives a grant under this section,
5 awarding subgrants to local educational agen-
6 cies to enable the local educational agencies to
7 carry out authorized activities described in sub-
8 paragraphs (A) through (G); and

9 (I) providing salary increments or bonuses
10 to teachers serving high-need schools who—

11 (i) become qualified to teach, and
12 teach, Advanced Placement or Inter-
13 national Baccalaureate courses in mathe-
14 matics, science, or a critical foreign lan-
15 guage; or

16 (ii) increase the number of low-income
17 students, who take Advanced Placement or
18 International Baccalaureate examinations
19 in mathematics, science, or a critical for-
20 eign language with the goal of successfully
21 passing such examinations.

22 (h) MATCHING REQUIREMENT.—

23 (1) IN GENERAL.—Subject to paragraph (2),
24 each eligible entity that receives a grant under this
25 section shall provide, toward the cost of the activities

1 assisted under the grant, from non-Federal sources,
2 an amount equal to 200 percent of the amount of
3 the grant, except that an eligible entity that is a
4 high-need local educational agency shall provide an
5 amount equal to not more than 100 percent of the
6 amount of the grant.

7 (2) WAIVER.—The Secretary may waive all or
8 part of the matching requirement described in para-
9 graph (1) for any fiscal year for an eligible entity
10 described in subparagraph (A) or (B) of section
11 3122(2), if the Secretary determines that applying
12 the matching requirement to such eligible entity
13 would result in serious hardship or an inability to
14 carry out the authorized activities described in sub-
15 section (g).

16 (i) SUPPLEMENT NOT SUPPLANT.—Grant funds pro-
17 vided under this section shall be used to supplement, not
18 supplant, other Federal and non-Federal funds available
19 to carry out the activities described in subsection (g).

20 (j) COLLECTING AND REPORTING REQUIREMENTS.—

21 (1) REPORT.—Each eligible entity receiving a
22 grant under this section shall collect and report to
23 the Secretary annually such data on the results of
24 the grant as the Secretary may reasonably require,
25 including data regarding—

1 (A) the number of students enrolling in
2 Advanced Placement or International Bacca-
3 laureate courses in mathematics, science, or a
4 critical foreign language, and pre-Advanced
5 Placement or pre-International Baccalaureate
6 courses in such a subject, and the distribution
7 of grades those students receive;

8 (B) the number of students taking Ad-
9 vanced Placement or International Bacca-
10 laureate examinations in mathematics, science,
11 or a critical foreign language, and the distribu-
12 tion of scores on those examinations;

13 (C) the number of teachers receiving train-
14 ing in teaching Advanced Placement or Inter-
15 national Baccalaureate courses in mathematics,
16 science, or a critical foreign language who will
17 be teaching such courses in the next school
18 year;

19 (D) the number of teachers becoming
20 qualified to teach Advanced Placement or Inter-
21 national Baccalaureate courses in mathematics,
22 science, or a critical foreign language; and

23 (E) the number of qualified teachers who
24 are teaching Advanced Placement or Inter-
25 national Baccalaureate courses in mathematics,

1 science, or critical foreign languages to students
2 in a high-need school.

3 (2) REPORTING OF DATA.—Each eligible entity
4 receiving a grant under this section shall report data
5 required under paragraph (1)—

6 (A) disaggregated by subject area;

7 (B) in the case of student data,
8 disaggregated in the same manner as informa-
9 tion is disaggregated under section
10 1111(h)(1)(C)(i) of the Elementary and Sec-
11 ondary Education Act of 1965 (20 U.S.C.
12 6311(h)(1)(C)(i)); and

13 (C) to the extent feasible, in a manner that
14 allows comparison of conditions before, during,
15 and after the project.

16 (k) EVALUATION AND REPORT.—From the amount
17 made available for any fiscal year under subsection (l),
18 the Secretary shall reserve such sums as may be nec-
19 essary—

20 (1) to conduct an annual independent evalua-
21 tion, by grant or by contract, of the program carried
22 out under this section, which shall include an assess-
23 ment of the impact of the program on student aca-
24 demic achievement; and

1 (2) to prepare and submit an annual report on
2 the results of the evaluation described in paragraph
3 (1) to the Committee on Health, Education, Labor,
4 and Pensions of the Senate, the Committee on Edu-
5 cation and the Workforce of the House of Rep-
6 resentatives, and the Committees on Appropriations
7 of the Senate and House of Representatives.

8 (1) AUTHORIZATION OF APPROPRIATIONS.—There
9 are authorized to be appropriated to carry out this section
10 \$58,000,000 for fiscal year 2008, and such sums as may
11 be necessary for each of the 3 succeeding fiscal years.

12 **TITLE II—MATH NOW**

13 **SEC. 3201. MATH NOW FOR ELEMENTARY SCHOOL AND MID-** 14 **DLE SCHOOL STUDENTS PROGRAM.**

15 (a) PURPOSE.—The purpose of this section is to en-
16 able all students to reach or exceed grade-level academic
17 achievement standards and to prepare the students to en-
18 roll in and pass algebra courses by—

19 (1) improving instruction in mathematics for
20 students in kindergarten through grade 9 through
21 the implementation of mathematics programs and
22 the support of comprehensive mathematics initiatives
23 that are based on the best available evidence of ef-
24 fectiveness; and

1 (2) providing targeted help to low-income stu-
2 dents who are struggling with mathematics and
3 whose achievement is significantly below grade level.

4 (b) DEFINITION OF ELIGIBLE LOCAL EDUCATIONAL
5 AGENCY.—In this section, the term “eligible local edu-
6 cational agency” means a high-need local educational
7 agency (as defined in section 3112(3)) serving 1 or more
8 schools—

9 (1) with significant numbers or percentages of
10 students whose mathematics skills are below grade
11 level;

12 (2) that are not making adequate yearly
13 progress in mathematics under section 1111(b)(2) of
14 the Elementary and Secondary Education Act of
15 1965 (20 U.S.C. 6311(b)(2)); or

16 (3) in which students are receiving instruction
17 in mathematics from teachers who do not have
18 mathematical content knowledge or expertise in the
19 teaching of mathematics.

20 (c) PROGRAM AUTHORIZED.—

21 (1) IN GENERAL.—From the amounts appro-
22 priated under subsection (k) for any fiscal year, the
23 Secretary is authorized to award grants, on a com-
24 petitive basis, for not more than 5 years, to State
25 educational agencies to enable the State educational

1 agencies to award grants to eligible local educational
2 agencies to carry out the activities described in sub-
3 section (e).

4 (2) PRIORITY.—In awarding grants under this
5 section, the Secretary shall give priority to applica-
6 tions for projects that will implement statewide
7 strategies for improving mathematics instruction
8 and raising the mathematics achievement of stu-
9 dents, particularly students in grades 4 through 8.

10 (d) STATE USES OF FUNDS.—

11 (1) IN GENERAL.—Each State educational
12 agency that receives a grant under this section for
13 a fiscal year—

14 (A) shall expend not more than a total of
15 10 percent of the grant funds to carry out the
16 activities described in paragraphs (2) or (3) for
17 the fiscal year; and

18 (B) shall use not less than 90 percent of
19 the grant funds to award grants, on a competi-
20 tive basis, to eligible local educational agencies
21 to enable the eligible local educational agencies
22 to carry out the activities described in sub-
23 section (e) for the fiscal year.

24 (2) MANDATORY USES OF FUNDS.—A State
25 educational agency shall use the grant funds made

1 available under paragraph (1)(A) to carry out each
2 of the following activities:

3 (A) PLANNING AND ADMINISTRATION.—

4 Planning and administration, including—

5 (i) evaluating applications from eligi-
6 ble local educational agencies using peer
7 review teams described in subsection
8 (f)(1)(D);

9 (ii) administering the distribution of
10 grants to eligible local educational agen-
11 cies; and

12 (iii) assessing and evaluating, on a
13 regular basis, eligible local educational
14 agency activities assisted under this sec-
15 tion, with respect to whether the activities
16 have been effective in increasing the num-
17 ber of children—

18 (I) making progress toward meet-
19 ing grade-level mathematics achieve-
20 ment; and

21 (II) meeting or exceeding grade-
22 level mathematics achievement.

23 (B) REPORTING.—Annually providing the
24 Secretary with a report on the implementation
25 of this section as described in subsection (i).

1 (3) PERMISSIVE USE OF FUNDS; TECHNICAL
2 ASSISTANCE.—

3 (A) IN GENERAL.—A State educational
4 agency may use the grant funds made available
5 under paragraph (1)(A) for 1 or more of the
6 following technical assistance activities that as-
7 sist an eligible local educational agency, upon
8 request by the eligible local educational agency,
9 in accomplishing the tasks required to design
10 and implement a project under this section, in-
11 cluding assistance in—

12 (i) selecting and implementing a pro-
13 gram of mathematics instruction, or mate-
14 rials and interventions, based on the best
15 available evidence of effectiveness;

16 (ii) evaluating and selecting diagnostic
17 and classroom based instructional mathe-
18 matics assessments; and

19 (iii) identifying eligible professional
20 development providers to conduct the pro-
21 fessional development activities described
22 in subsection (e)(1)(B).

23 (B) GUIDANCE.—The technical assistance
24 described in subparagraph (A) shall be guided
25 by researchers with expertise in the pedagogy of

1 mathematics, mathematicians, and mathematics
2 educators from high-risk, high-achievement
3 schools and eligible local educational agencies.

4 (e) LOCAL USES OF FUNDS.—

5 (1) MANDATORY USES OF FUNDS.—Each eligi-
6 ble local educational agency receiving a grant under
7 this section shall use the grant funds to carry out
8 each of the following activities:

9 (A) To implement mathematics instruc-
10 tional materials and interventions (including in-
11 tensive and systematic instruction)—

12 (i) for students in the grades of a par-
13 ticipating school as identified in the appli-
14 cation submitted under subsection
15 (f)(2)(A); and

16 (ii) that are based on the best avail-
17 able evidence of effectiveness.

18 (B) To provide professional development
19 and instructional leadership activities for teach-
20 ers and, if appropriate, for administrators and
21 other school staff, on the implementation of
22 comprehensive mathematics initiatives de-
23 signed—

1 (i) to improve the achievement of stu-
2 dents performing significantly below grade
3 level;

4 (ii) to improve the mathematical con-
5 tent knowledge of the teachers, administra-
6 tors, and other school staff;

7 (iii) to increase the use of effective in-
8 structional practices; and

9 (iv) to monitor student progress.

10 (C) To conduct continuous progress moni-
11 toring, which may include the adoption and use
12 of assessments that—

13 (i) measure student progress and
14 identify areas in which students need help
15 in learning mathematics; and

16 (ii) reflect mathematics content that
17 is consistent with State academic achieve-
18 ment standards in mathematics described
19 in section 1111(b) of the Elementary and
20 Secondary Education Act of 1965 (20
21 U.S.C. 6311(b)).

22 (2) PERMISSIVE USES OF FUNDS.—An eligible
23 local educational agency may use grant funds under
24 this section to—

1 (A) adopt and use mathematics instruc-
2 tional materials and assessments;

3 (B) implement classroom-based assess-
4 ments, including diagnostic or formative assess-
5 ments;

6 (C) provide remedial coursework and inter-
7 ventions for students, which may be provided
8 before or after school;

9 (D) provide small groups with individual-
10 ized instruction in mathematics;

11 (E) conduct activities designed to improve
12 the content knowledge and expertise of teach-
13 ers, such as the use of a mathematics coach,
14 enrichment activities, and interdisciplinary
15 methods of mathematics instruction; and

16 (F) collect and report performance data.

17 (f) APPLICATIONS.—

18 (1) STATE EDUCATIONAL AGENCY.—Each State
19 educational agency desiring a grant under this sec-
20 tion shall submit an application to the Secretary at
21 such time and in such manner as the Secretary may
22 require. Each application shall include—

23 (A) an assurance that the core mathe-
24 matics instructional materials or program, sup-
25 plemental instructional materials, and interven-

1 tion programs used by the eligible local edu-
2 cational agencies for the project, are based on
3 the best available evidence of effectiveness and
4 are aligned with State academic achievement
5 standards;

6 (B) an assurance that eligible local edu-
7 cational agencies will meet the requirements de-
8 scribed in paragraph (2);

9 (C) an assurance that local applications
10 will be evaluated using a peer review process;
11 and

12 (D) a description of the qualifications of
13 the peer review teams, which shall consist of—

14 (i) researchers with expertise in the
15 pedagogy of mathematics;

16 (ii) mathematicians; and

17 (iii) mathematics educators serving
18 high-risk, high-achievement schools and eli-
19 gible local educational agencies.

20 (2) ELIGIBLE LOCAL EDUCATIONAL AGENCY.—

21 Each eligible local educational agency desiring a
22 grant under this section shall submit an application
23 to the State educational agency at such time and in
24 such manner as the State educational agency may
25 require. Each application shall include—

1 (A) an assurance that the eligible local
2 educational agency will provide assistance to 1
3 or more schools that are—

4 (i) served by the eligible local edu-
5 cational agency; and

6 (ii) described in section 3201(b);

7 (B) a description of the grades kinder-
8 garten through grade 9, and of the schools, that
9 will be served;

10 (C) information, on an aggregate basis, on
11 each school to be served by the project, includ-
12 ing such demographic, socioeconomic, and
13 mathematics achievement data as the State
14 educational agency may request;

15 (D) a description of the core mathematics
16 instructional materials or program, supple-
17 mental instructional materials, and intervention
18 programs or strategies that will be used for the
19 project, including an assurance that the pro-
20 grams or strategies and materials are based on
21 the best available evidence of effectiveness and
22 are aligned with State academic achievement
23 standards;

24 (E) a description of the activities that will
25 be carried out under the grant, including a de-

1 description of the professional development that
 2 will be provided to teachers, and, if appropriate,
 3 administrators and other school staff, and a de-
 4 scription of how the activities will support
 5 achievement of the purpose of this section;

6 (F) an assurance that the eligible local
 7 educational agency will report to the State edu-
 8 cational agency all data on student academic
 9 achievement that is necessary for the State edu-
 10 cational agency's report under subsection (i);

11 (G) a description of the eligible entity's
 12 plans for evaluating the impact of professional
 13 development and leadership activities in mathe-
 14 matics on the content knowledge and expertise
 15 of teachers, administrators, or other school
 16 staff; and

17 (H) any other information the State edu-
 18 cational agency may reasonably require.

19 (g) PROHIBITION ON ENDORSEMENT OF CUR-
 20 RICULUM.—

21 (1) IN GENERAL.—In implementing this sec-
 22 tion, the Secretary shall not—

23 (A) endorse, approve, or sanction any
 24 mathematics curriculum designed for use in any
 25 school; or

1 (B) engage in oversight, technical assist-
2 ance, or activities that will require the adoption
3 of a specific mathematics program or instruc-
4 tional materials by a State, local educational
5 agency, or school.

6 (2) RULE OF CONSTRUCTION.—Nothing in this
7 title shall be construed to authorize or permit the
8 Department of Education, or a Department of Edu-
9 cation contractor, to mandate, direct, control, or
10 suggest the selection of a mathematics curriculum,
11 supplemental instructional materials, or program of
12 instruction by a State, local educational agency, or
13 school.

14 (h) MATCHING REQUIREMENTS.—

15 (1) STATE EDUCATIONAL AGENCY.—A State
16 educational agency that receives a grant under this
17 section shall provide, from non-Federal sources, an
18 amount equal to 50 percent of the amount of the
19 grant, in cash or in kind, to carry out the activities
20 supported by the grant, of which not more than 20
21 percent of such 50 percent may be provided by local
22 educational agencies within the State.

23 (2) WAIVER.—The Secretary may waive all of
24 or a portion of the matching requirement described

1 in paragraph (1) for any fiscal year, if the Secretary
2 determines that—

3 (A) the application of the matching re-
4 quirement will result in serious hardship for the
5 State educational agency; or

6 (B) providing a waiver best serves the pur-
7 pose of the program assisted under this section.

8 (i) PROGRAM PERFORMANCE AND ACCOUNT-
9 ABILITY.—

10 (1) INFORMATION.—Each State educational
11 agency receiving a grant under this section shall col-
12 lect and report to the Secretary annually such infor-
13 mation on the results of the grant as the Secretary
14 may reasonably require, including information on—

15 (A) mathematics achievement data that
16 show the progress of students participating in
17 projects under this section (including, to the ex-
18 tent practicable, comparable data from students
19 not participating in such projects), based pri-
20 marily on the results of State, school district
21 wide, or classroom-based, assessments, includ-
22 ing—

23 (i) specific identification of those
24 schools and eligible local educational agen-

1 cies that report the largest gains in mathe-
2 matics achievement; and

3 (ii) evidence on whether the State
4 educational agency and eligible local edu-
5 cational agencies within the State have—

6 (I) significantly increased the
7 number of students achieving at grade
8 level or above in mathematics;

9 (II) significantly increased the
10 percentages of students described in
11 section 1111(b)(2)(C)(v)(II) of the El-
12 ementary and Secondary Education
13 Act of 1965 (20 U.S.C.
14 6311(b)(2)(C)(v)(II)) who are achiev-
15 ing at grade level or above in mathe-
16 matics;

17 (III) significantly increased the
18 number of students making significant
19 progress toward meeting grade-level
20 mathematics achievement standards;
21 and

22 (IV) successfully implemented
23 this section;

24 (B) the percentage of students in the
25 schools served by the eligible local educational

1 agency who enroll in algebra courses and the
2 percentage of such students who pass algebra
3 courses; and

4 (C) the progress made in increasing the
5 quality and accessibility of professional develop-
6 ment and leadership activities in mathematics,
7 especially activities resulting in greater content
8 knowledge and expertise of teachers, adminis-
9 trators, and other school staff, except that the
10 Secretary shall not require such information
11 until after the third year of a grant awarded
12 under this section.

13 (2) REPORTING AND DISAGGREGATION.—The
14 information required under paragraph (1) shall be—

15 (A) reported in a manner that allows for a
16 comparison of aggregated score differentials of
17 student academic achievement before (to the ex-
18 tent feasible) and after implementation of the
19 project assisted under this section; and

20 (B) disaggregated in the same manner as
21 information is disaggregated under section
22 1111(h)(1)(C)(i) of the Elementary and Sec-
23 ondary Education Act of 1965 (20 U.S.C.
24 6311(h)(1)(C)(i)).

1 (3) PRIVACY PROTECTION.—The data in the re-
2 port shall be reported in a manner that—

3 (A) protects the privacy of individuals; and

4 (B) complies with the requirements of the
5 Family Educational Rights and Privacy Act of
6 1974 (20 U.S.C. 1232g).

7 (j) EVALUATION AND TECHNICAL ASSISTANCE.—

8 (1) EVALUATION.—

9 (A) IN GENERAL.—The Secretary shall
10 conduct an annual independent evaluation, by
11 grant or by contract, of the program assisted
12 under this section, which shall include an as-
13 sessment of the impact of the program on stu-
14 dent academic achievement and teacher per-
15 formance, and may use funds available to carry
16 out this section to conduct the evaluation.

17 (B) REPORT.—The Secretary shall annu-
18 ally submit, to the Committee on Health, Edu-
19 cation, Labor, and Pensions of the Senate, the
20 Committee on Education and the Workforce of
21 the House of Representatives, and the Commit-
22 tees on Appropriations of the Senate and House
23 of Representatives, a report on the results of
24 the evaluation.

1 (2) TECHNICAL ASSISTANCE.—The Secretary
2 may use funds made available under paragraph (3)
3 to provide technical assistance to prospective appli-
4 cants and to eligible local educational agencies re-
5 ceiving a grant under this section.

6 (3) RESERVATION OF FUNDS.—The Secretary
7 may reserve not more than 2.5 percent of funds ap-
8 propriated under subsection (k) for a fiscal year to
9 carry out this subsection.

10 (k) AUTHORIZATION OF APPROPRIATIONS.—There
11 are authorized to be appropriated to carry out this section
12 \$146,700,000 for fiscal year 2008, and such sums as may
13 be necessary for each of the 3 succeeding fiscal years.

14 **TITLE III—FOREIGN LANGUAGE**
15 **PARTNERSHIP PROGRAM**

16 **SEC. 3301. FINDINGS AND PURPOSE.**

17 (a) FINDINGS.—Congress makes the following find-
18 ings:

19 (1) The United States faces a shortage of
20 skilled professionals with higher levels of proficiency
21 in foreign languages and area knowledge critical to
22 the Nation’s security.

23 (2) Given the Nation’s economic competitive-
24 ness interests, it is crucial that our Nation expand
25 the number of Americans who are able to function

1 effectively in the environments in which critical for-
 2 eign languages are spoken.

3 (3) Students' ability to become proficient in for-
 4 eign languages can be addressed by starting lan-
 5 guage learning at a younger age and expanding op-
 6 portunities for continuous foreign language edu-
 7 cation from elementary school through postsec-
 8 ondary education.

9 (b) PURPOSE.—The purpose of this title is to signifi-
 10 cantly increase—

11 (1) the opportunities to study critical foreign
 12 languages and the context in which the critical for-
 13 eign languages are spoken; and

14 (2) the number of American students who
 15 achieve the highest level of proficiency in critical for-
 16 eign languages.

17 **SEC. 3302. DEFINITIONS.**

18 In this title:

19 (1) ELIGIBLE RECIPIENT.—The term “eligible
 20 recipient” means an institution of higher education
 21 that receives grant funds under this title on behalf
 22 of a partnership for use in carrying out the activities
 23 assisted under this title.

24 (2) PARTNERSHIP.—The term “partnership”
 25 means a partnership that—

1 (A) shall include—

2 (i) an institution of higher education;

3 and

4 (ii) 1 or more local educational agen-
5 cies; and

6 (B) may include 1 or more entities that
7 support the purposes of this title.

8 (3) SUPERIOR LEVEL OF PROFICIENCY.—The
9 term “superior level of proficiency” means level 3,
10 the professional working level, as measured by the
11 Federal Interagency Language Roundtable (ILR) or
12 by other generally recognized measures of superior
13 standards.

14 **SEC. 3303. PROGRAM AUTHORIZED.**

15 (a) PROGRAM AUTHORIZED.—

16 (1) IN GENERAL.—The Secretary is authorized
17 to award grants to eligible recipients to enable part-
18 nerships served by the eligible recipients to establish
19 articulated programs of study in critical foreign lan-
20 guages that will enable students to advance success-
21 fully from elementary school through postsecondary
22 education and achieve higher levels of proficiency in
23 a critical foreign language.

24 (2) DURATION.—A grant awarded under para-
25 graph (1) shall be for a period of not more than 5

1 years. A grant may be renewed for not more than
2 additional 5-year periods, if the Secretary deter-
3 mines that the partnership's program is effective
4 and the renewal will best serve the purposes of this
5 title.

6 (b) APPLICATIONS.—

7 (1) IN GENERAL.—Each eligible recipient desir-
8 ing a grant under this section shall submit an appli-
9 cation to the Secretary at such time, in such man-
10 ner, and containing such information as the Sec-
11 retary may require.

12 (2) CONTENTS.—Each application shall—

13 (A) identify each local educational agency
14 partner, including contact information and let-
15 ters of commitment, and describe the respon-
16 sibilities of each member of the partnership, in-
17 cluding—

18 (i) how each of the partners will be in-
19 volved in planning, developing, and imple-
20 menting—

21 (I) program curriculum and ma-
22 terials; and

23 (II) teacher professional develop-
24 ment;

1 (ii) what resources each of the part-
2 ners will provide; and

3 (iii) how the partners will contribute
4 to ensuring the continuity of student
5 progress from elementary school through
6 the postsecondary level;

7 (B) describe how an articulated curriculum
8 for students will be developed and implemented,
9 which may include the use and integration of
10 technology into such curriculum;

11 (C) identify target proficiency levels for
12 students at critical benchmarks (such as grades
13 4, 8, and 12), and describe how progress to-
14 ward those proficiency levels will be assessed at
15 the benchmarks, and how the program will use
16 the results of the assessments to ensure contin-
17 uous progress toward achieving a superior level
18 of proficiency at the postsecondary level;

19 (D) describe how the partnership will—

20 (i) ensure that students from a pro-
21 gram assisted under this title who are be-
22 ginning postsecondary education will be as-
23 sessed and enabled to progress to a supe-
24 rior level of proficiency;

1 (ii) address the needs of students al-
2 ready at, or near, the superior level of pro-
3 ficiency, which may include diagnostic as-
4 sessments for placement purposes, cus-
5 tomized and individualized language learn-
6 ing opportunities, and experimental and
7 interdisciplinary language learning; and

8 (iii) identify and describe how the
9 partnership will work with institutions of
10 higher education outside the partnership to
11 provide participating students with mul-
12 tiple options for postsecondary education
13 consistent with the purposes of this title;

14 (E) describe how the partnership will sup-
15 port and continue the program after the grant
16 has expired, including how the partnership will
17 seek support from other sources, such as State
18 and local governments, foundations, and the
19 private sector; and

20 (F) describe what assessments will be used
21 or, if assessments not available, how assess-
22 ments will be developed.

23 (c) USES OF FUNDS.—Grant funds awarded under
24 this title—

1 (1) shall be used to develop and implement pro-
2 grams at the elementary school level through post-
3 secondary education, consistent with the purpose of
4 this title, including—

5 (A) the development of curriculum and in-
6 structional materials; and

7 (B) recruitment of students; and

8 (2) may be used for—

9 (A) teacher recruitment (including recruit-
10 ment from other professions and recruitment of
11 native-language speakers in the community)
12 and professional development directly related to
13 the purposes of this title at the elementary
14 school through secondary school levels;

15 (B) development of appropriate assess-
16 ments;

17 (C) opportunities for maximum language
18 exposure for students in the program, such as
19 the creation of immersion environments (such
20 as language houses, language tables, immersion
21 classrooms, and weekend and summer experi-
22 ences) and special tutoring and academic sup-
23 port;

24 (D) dual language immersion programs;

1 (E) scholarships and study-abroad oppor-
2 tunities, related to the program, for postsec-
3 ondary students and newly recruited teachers
4 who have advanced levels of proficiency in a
5 critical foreign language, except that not more
6 than 20 percent of the grant funds provided to
7 an eligible recipient under this section for a fis-
8 cal year may be used to carry out this subpara-
9 graph;

10 (F) activities to encourage community in-
11 volvement to assist in meeting the purposes of
12 this title;

13 (G) summer institutes for students and
14 teachers;

15 (H) bridge programs that allow dual en-
16 rollment for secondary school students in insti-
17 tutions of higher education;

18 (I) programs that expand the under-
19 standing and knowledge of historic, geographic,
20 and contextual factors within countries with
21 populations who speak critical foreign lan-
22 guages, if such programs are carried out in con-
23 junction with language instruction;

24 (J) research on, and evaluation of, the
25 teaching of critical foreign languages;

1 (K) data collection and analysis regarding
2 the results of—

3 (i) various student recruitment strate-
4 gies;

5 (ii) program design; and

6 (iii) curricular approaches; and

7 (L) the impact of the strategies, program
8 design, and curricular approaches described in
9 subparagraph (K) on increasing—

10 (i) the number of students studying
11 critical foreign languages; and

12 (ii) the proficiency of the students in
13 the critical foreign languages.

14 (d) MATCHING REQUIREMENT.—

15 (1) IN GENERAL.—An eligible recipient that re-
16 ceives a grant under this title shall provide, toward
17 the cost of carrying out the activities supported by
18 the grant, from non-Federal sources, an amount
19 equal to—

20 (A) 20 percent of the amount of the grant
21 payment for the first fiscal year for which a
22 grant payment is made;

23 (B) 30 percent of the amount of the grant
24 payment for the second such fiscal year;

1 (C) 40 percent of the amount of the grant
2 payment for the third such fiscal year; and

3 (D) 50 percent of the amount of the grant
4 payment for each of the fourth and fifth such
5 fiscal years.

6 (2) NON-FEDERAL SHARE.—The non-Federal
7 share required under paragraph (1) may be provided
8 in cash or in-kind.

9 (3) WAIVER.—The Secretary may waive all or
10 part of the matching requirement of paragraph (1),
11 for any fiscal year, if the Secretary determines
12 that—

13 (A) the application of the matching re-
14 quirement will result in serious hardship for the
15 partnership; or

16 (B) the waiver will best serve the purposes
17 of this title.

18 (e) SUPPLEMENT NOT SUPPLANT.—Grant funds
19 provided under this title shall be used to supplement, not
20 supplant, other Federal and non-Federal funds available
21 to carry out the activities described in subsection (c).

22 (f) TECHNICAL ASSISTANCE.—The Secretary shall
23 enter into a contract to establish a technical assistance
24 center to provide technical assistance to partnerships de-

1 veloping critical foreign language programs assisted under
2 this section. The center shall—

3 (1) assist the partnerships in the development
4 of critical foreign language instructional materials
5 and assessments; and

6 (2) disseminate promising foreign language in-
7 structional practices.

8 (g) PROGRAM EVALUATION.—

9 (1) IN GENERAL.—The Secretary may reserve
10 not more than 5 percent of the total amount appro-
11 priated for this title for any fiscal year to annually
12 evaluate the programs under this title.

13 (2) REPORT.—The Secretary shall prepare and
14 annually submit, to the Committee on Health, Edu-
15 cation, Labor, and Pensions of the Senate, the Com-
16 mittee on Education and the Workforce of the
17 House of Representatives, and the Committees on
18 Appropriations of the Senate and House of Rep-
19 resentatives, a report on the results of any program
20 evaluation conducted under this subsection.

21 **SEC. 3304. AUTHORIZATION OF APPROPRIATIONS.**

22 For the purpose of carrying out this title, there are
23 authorized to be appropriated \$22,000,000 for fiscal year
24 2008, and such sums as may be necessary for each of the
25 3 succeeding fiscal years.

1 **TITLE IV—ALIGNMENT OF**
2 **EDUCATION PROGRAMS**

3 **SEC. 3401. ALIGNMENT OF SECONDARY SCHOOL GRADUA-**
4 **TION REQUIREMENTS WITH THE DEMANDS**
5 **OF 21ST CENTURY POSTSECONDARY ENDEAV-**
6 **ORS AND SUPPORT FOR P-16 EDUCATION**
7 **DATA SYSTEMS.**

8 (a) PURPOSE.—It is the purpose of this section—

9 (1) to promote more accountability with respect
10 to preparation for higher education, the 21st century
11 workforce, and the Armed Forces, by aligning—

12 (A) student knowledge, student skills,
13 State academic content standards and assess-
14 ments, and curricula, in elementary and sec-
15 ondary education, especially with respect to
16 mathematics, science, reading, and, where ap-
17 plicable, engineering and technology; with

18 (B) the demands of higher education, the
19 21st century workforce, and the Armed Forces;

20 (2) to support the establishment or improve-
21 ment of statewide P–16 education data systems
22 that—

23 (A) assist States in improving the rigor
24 and quality of elementary and secondary edu-

1 cation content knowledge requirements and as-
2 sessments;

3 (B) ensure students are prepared to suc-
4 ceed in—

5 (i) academic credit-bearing coursework
6 in higher education without the need for
7 remediation;

8 (ii) the 21st century workforce; or

9 (iii) the Armed Forces; and

10 (3) enable States to have valid and reliable in-
11 formation to inform education policy and practice.

12 (b) DEFINITIONS.—In this section:

13 (1) INSTITUTION OF HIGHER EDUCATION.—The
14 term “institution of higher education” has the
15 meaning given the term in section 101(a) of the
16 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

17 (2) P–16 EDUCATION.—The term “P–16 edu-
18 cation” means the educational system from pre-
19 kindergarten through the conferring of a bacca-
20 laurate degree.

21 (3) STATEWIDE PARTNERSHIP.—The term
22 “statewide partnership” means a partnership that—

23 (A) shall include—

24 (i) the Governor of the State or the
25 designee of the Governor;

- 1 (ii) the heads of the State systems for
2 public higher education, or, if such a posi-
3 tion does not exist, not less than 1 rep-
4 resentative of a public degree-granting in-
5 stitution of higher education;
- 6 (iii) not less than 1 representative of
7 a technical school;
- 8 (iv) not less than 1 representative of
9 a public secondary school;
- 10 (v) the chief State school officer;
- 11 (vi) the chief executive officer of the
12 State higher education coordinating board;
- 13 (vii) not less than 1 public elementary
14 school teacher employed in the State;
- 15 (viii) not less than 1 public elemen-
16 tary school teacher certified in early child-
17 hood education;
- 18 (ix) not less than 1 public secondary
19 school teacher employed in the State;
- 20 (x) not less than 1 representative of
21 the business community in the State; and
- 22 (xi) not less than 1 member of the
23 Armed Forces; and
- 24 (B) may include other individuals or rep-
25 resentatives of other organizations, such as a

1 school administrator, a faculty member at an
2 institution of higher education, a member of a
3 civic or community organization, a representa-
4 tive from a private institution of higher edu-
5 cation, a dean or similar representative of a
6 school of education at an institution of higher
7 education or a similar teacher certification or li-
8 censure program, or the State official respon-
9 sible for economic development.

10 (c) GRANTS AUTHORIZED.—The Secretary is author-
11 ized to award grants, on a competitive basis, to States to
12 enable each such State to work with a statewide partner-
13 ship—

14 (1) to promote better alignment of content
15 knowledge requirements for secondary school grad-
16 uation with the knowledge and skills needed to suc-
17 ceed in postsecondary education, the 21st century
18 workforce, or the Armed Forces; or

19 (2) to establish or improve a statewide P-16
20 education data system.

21 (d) PERIOD OF GRANTS; NON-RENEWABILITY.—

22 (1) GRANT PERIOD.—The Secretary shall
23 award a grant under this section for a period of not
24 more than 3 years.

1 (2) NON-RENEWABILITY.—The Secretary shall
2 not award a State more than 1 grant under this sec-
3 tion.

4 (e) AUTHORIZED ACTIVITIES.—

5 (1) GRANTS FOR P-16 ALIGNMENT.—Each
6 State receiving a grant under subsection (c)(1)—

7 (A) shall use the grant funds for—

8 (i) identifying and describing the con-
9 tent knowledge and skills students who
10 enter institutions of higher education, the
11 workforce, and the Armed Forces need to
12 have in order to succeed without any reme-
13 diation based on detailed requirements ob-
14 tained from institutions of higher edu-
15 cation, employers, and the Armed Forces;

16 (ii) identifying and making changes
17 that need to be made to a State's sec-
18 ondary school graduation requirements,
19 academic content standards, academic
20 achievement standards, and assessments
21 preceding graduation from secondary
22 school in order to align the requirements,
23 standards, and assessments with the
24 knowledge and skills necessary for success
25 in academic credit-bearing coursework in

1 postsecondary education, in the 21st cen-
2 tury workforce, and in the Armed Forces
3 without the need for remediation;

4 (iii) convening stakeholders within the
5 State and creating a forum for identifying
6 and deliberating on education issues that—

7 (I) involve prekindergarten
8 through grade 12 education, postsec-
9 ondary education, the 21st century
10 workforce, and the Armed Forces; and

11 (II) transcend any single system
12 of education's ability to address; and

13 (iv) implementing activities designed
14 to ensure the enrollment of all elementary
15 school and secondary school students in
16 rigorous coursework, which may include—

17 (I) specifying the courses and
18 performance levels necessary for ac-
19 ceptance into institutions of higher
20 education; and

21 (II) developing curricula and as-
22 sessments aligned with State academic
23 content standards, which assessments
24 may be used as measures of student
25 academic achievement in secondary

1 school as well as for entrance or
2 placement at institutions of higher
3 education, including through collabo-
4 ration with institutions of higher edu-
5 cation in, or State educational agen-
6 cies serving, other States; and

7 (B) may use the grant funds for—

8 (i) developing and making available
9 specific opportunities for extensive profes-
10 sional development for teachers, para-
11 professionals, principals, and school admin-
12 istrators, including collection and dissemi-
13 nation of effective teaching practices to im-
14 prove instruction and instructional support
15 mechanisms;

16 (ii) identifying changes in State aca-
17 demic content standards, academic achieve-
18 ment standards, and assessments for stu-
19 dents in grades preceding secondary school
20 in order to ensure the students are ade-
21 quately prepared when the students enter
22 secondary school;

23 (iii) developing a plan to provide re-
24 mediation and additional learning opportu-
25 nities for students who are performing

1 below grade level to ensure that all stu-
2 dents will have the opportunity to meet
3 secondary school graduation requirements;
4 or
5 (iv) identifying and addressing teacher
6 certification needs.

7 (2) GRANTS FOR STATEWIDE P-16 EDUCATION
8 DATA SYSTEMS.—

9 (A) ESTABLISHMENT OF SYSTEM.—Each
10 State that receives a grant under subsection
11 (c)(2) shall establish a statewide P-16 edu-
12 cation longitudinal data system that—

13 (i) provides each student, upon enroll-
14 ment in a public elementary school or sec-
15 ondary school in the State, with a unique
16 identifier, such as a bar code, that—

17 (I) does not permit a student to
18 be individually identified by users of
19 the system; and

20 (II) is retained throughout the
21 student's enrollment in P-16 edu-
22 cation in the State; and

23 (ii) meets the requirements of sub-
24 paragraphs (B) through (E).

1 (B) IMPROVEMENT OF EXISTING SYS-
2 TEM.—Each State that receives a grant under
3 subsection (c)(2) for the improvement of a
4 statewide P–16 education data system may em-
5 ploy, coordinate, or revise an existing statewide
6 data system to establish a statewide longitu-
7 dinal P–16 education data system that meets
8 the requirements of subparagraph (A), if the
9 statewide longitudinal P–16 education data sys-
10 tem produces valid and reliable data.

11 (C) DATA AND COMPLIANCE WITH
12 FERPA.—The State, through the implementa-
13 tion of the statewide P–16 education data sys-
14 tem, shall—

15 (i) ensure the implementation and use
16 of valid and reliable secondary school drop-
17 out data; and

18 (ii) ensure that the statewide P–16
19 education data system meets the require-
20 ments of the Family Educational Rights
21 and Privacy Act of 1974 (20 U.S.C.
22 1232g).

23 (D) REQUIRED ELEMENTS OF A STATE-
24 WIDE P–16 EDUCATION DATA SYSTEM.—The
25 State shall ensure that the statewide P–16 edu-

1 cation data system includes the following ele-
2 ments:

3 (i) PREKINDERGARTEN THROUGH
4 GRADE 12 EDUCATION AND POSTSEC-
5 ONDARY EDUCATION.—With respect to
6 prekindergarten through grade 12 edu-
7 cation and postsecondary education—

8 (I) a unique statewide student
9 identifier that does not permit a stu-
10 student to be individually identified by
11 users of the system;

12 (II) student-level enrollment, de-
13 mographic, and program participation
14 information;

15 (III) student-level information
16 about the points at which students
17 exit, transfer in, transfer out, drop
18 out, or complete P–16 education pro-
19 grams;

20 (IV) the capacity to communicate
21 with higher education data systems;
22 and

23 (V) a State data audit system as-
24 sessing data quality, validity, and reli-
25 ability.

1 (ii) PREKINDERGARTEN THROUGH
2 GRADE 12 EDUCATION.—With respect to
3 prekindergarten through grade 12 edu-
4 cation—

5 (I) yearly test records of indi-
6 vidual students with respect to assess-
7 ments under section 1111(b) of the
8 Elementary and Secondary Education
9 Act of 1965 (20 U.S.C. 6311(b));

10 (II) information on students not
11 tested by grade and subject;

12 (III) a teacher identifier system
13 with the ability to match teachers to
14 students;

15 (IV) student-level transcript in-
16 formation, including information on
17 courses completed and grades earned;
18 and

19 (V) student-level college readi-
20 ness test scores.

21 (iii) POSTSECONDARY EDUCATION.—
22 With respect to postsecondary education,
23 data that provide—

24 (I) information regarding the ex-
25 tent to which students transition suc-

1 cessfully from secondary school to
2 postsecondary education, including
3 whether students enroll in remedial
4 coursework; and

5 (II) other information determined
6 necessary to address alignment and
7 adequate preparation for success in
8 postsecondary education.

9 (E) FUNCTIONS OF THE STATEWIDE P-16
10 EDUCATION DATA SYSTEM.—In implementing
11 the statewide P-16 education data system, the
12 State shall—

13 (i) identify factors that correlate to
14 students' ability to successfully engage in
15 and complete postsecondary-level general
16 education coursework without the need for
17 prior developmental coursework;

18 (ii) identify factors to increase the
19 percentage of low-income and minority stu-
20 dents who are academically prepared to
21 enter and successfully complete postsec-
22 ondary-level general education coursework;
23 and

24 (iii) use the data in the system to oth-
25 erwise inform education policy and practice

1 in order to better align student knowledge
2 and skills, and curricula, with the demands
3 of postsecondary education, the 21st cen-
4 tury workforce, and the Armed Forces.

5 (f) APPLICATION.—

6 (1) IN GENERAL.—Each State desiring a grant
7 under this section shall submit an application to the
8 Secretary at such time, in such manner, and con-
9 taining such information as the Secretary may rea-
10 sonably require.

11 (2) APPLICATION CONTENTS.—Each application
12 submitted under this section shall specify whether
13 the State application is for the conduct P–16 edu-
14 cation alignment activities, or the establishment or
15 improvement of a statewide P–16 education data
16 system. The application shall include, at a minimum,
17 the following:

18 (A) A description of the activities and pro-
19 grams to be carried out with the grant funds
20 and a comprehensive plan for carrying out the
21 activities.

22 (B) A description of how the concerns and
23 interests of the larger education community, in-
24 cluding parents, students, teachers, teacher
25 educators, principals, and school administrators

1 will be represented in carrying out the author-
2 ized activities described in subsection (e).

3 (C) In the case of a State applying for
4 funding for P–16 education alignment, a de-
5 scription of how the State will provide assist-
6 ance to local educational agencies in imple-
7 menting rigorous State content knowledge re-
8 quirements through substantive curricula and
9 other changes the State determines necessary,
10 including scientifically based remediation and
11 acceleration opportunities for students.

12 (D) In the case of a State applying for
13 funding to establish or improve a statewide P–
14 16 education data system—

15 (i) a description of and the timetable
16 for the establishment or improvement of
17 such system; and

18 (ii) an assurance that the State will
19 continue to fund the statewide P–16 edu-
20 cation data system after the end of the
21 grant period.

22 (g) SUPPLEMENT NOT SUPPLANT.—Grant funds
23 provided under this section shall be used to supplement,
24 not supplant, other Federal, State, and local funds avail-

1 able to carry out the authorized activities described in sub-
2 section (e).

3 (h) MATCHING REQUIREMENT.—Each State that re-
4 ceives a grant under this section shall provide, from non-
5 Federal sources, an amount equal to 100 percent of the
6 amount of the grant, in cash or in kind, to carry out the
7 activities supported by the grant.

8 (i) RULE OF CONSTRUCTION.—Nothing in this sec-
9 tion shall be construed to require States to provide raw
10 data to the Secretary.

11 (j) AUTHORIZATION OF APPROPRIATIONS.—There
12 are authorized to be appropriated to carry out this section
13 \$100,000,000 for fiscal year 2008 and such sums as may
14 be necessary for fiscal year 2009.

15 **DIVISION D—NATIONAL**
16 **SCIENCE FOUNDATION**

17 **SEC. 4001. AUTHORIZATION OF APPROPRIATIONS.**

18 (a) IN GENERAL.—There are authorized to be appro-
19 priated to the National Science Foundation—

- 20 (1) \$6,808,000,000 for fiscal year 2008;
21 (2) \$7,433,000,000 for fiscal year 2009;
22 (3) \$8,446,000,000 for fiscal year 2010; and
23 (4) \$11,200,000,000 for fiscal year 2011.

24 (b) PLAN FOR INCREASED RESEARCH.—

1 (1) IN GENERAL.—Not later than 180 days
2 after the date of the enactment of this Act, the Di-
3 rector of the National Science Foundation, in con-
4 sultation with the National Science Board, shall sub-
5 mit a comprehensive, multiyear plan that describes
6 how the funds authorized in subsection (a) would be
7 used, if appropriated, to the Committee on Com-
8 merce, Science, and Transportation of the Senate,
9 the Committee on Health, Education, Labor, and
10 Pensions of the Senate, and the Committee on
11 Science of the House of Representatives.

12 (2) PLAN REQUIREMENTS.—The Director
13 shall—

14 (A) develop the plan with a focus on
15 strengthening the Nation’s lead in physical
16 science and technology, increasing overall work-
17 force skills in physical science, technology, engi-
18 neering, and mathematics at all levels, and
19 strengthening innovation by expanding the
20 focus of competitiveness and innovation policy
21 at the regional and local level; and

22 (B) emphasize spending increased research
23 funds appropriated pursuant to subsection (a)
24 in areas of investment for Federal research and

1 technology programs identified under section
2 1101(c) of this Act.

3 **SEC. 4002. STRENGTHENING OF EDUCATION AND HUMAN**
4 **RESOURCES DIRECTORATE THROUGH EQUI-**
5 **TABLE DISTRIBUTION OF NEW FUNDS.**

6 (a) **PURPOSE.**—The purpose of this section is to en-
7 sure the continued involvement of experts at the National
8 Science Foundation in improving science, technology, en-
9 gineering, and mathematics education at the elementary,
10 secondary, and postsecondary school levels by providing
11 annual funding increases for the education and human re-
12 sources programs of the National Science Foundation that
13 are proportional to the funding increases provided to the
14 Foundation overall.

15 (b) **EQUITABLE DISTRIBUTION OF NEW FUNDS.**—
16 Within the amounts authorized to be appropriated by sec-
17 tion 4001, there are authorized to be appropriated for the
18 education and human resources programs of the National
19 Science Foundation, for each of the fiscal years 2008
20 through 2011, an amount equal to \$1,050,000,000 in-
21 creased for each such fiscal year by an amount equal to
22 the percentage increase in the appropriation for the Na-
23 tional Science Foundation for such fiscal year above the
24 amount appropriated to the National Science Foundation
25 for fiscal year 2007.

1 **SEC. 4003. GRADUATE FELLOWSHIPS AND GRADUATE**
2 **TRAINEESHIPS.**

3 (a) GRADUATE RESEARCH FELLOWSHIP PRO-
4 GRAM.—

5 (1) IN GENERAL.—During the 5-year period be-
6 ginning on the date of the enactment of this Act, the
7 Director of the National Science Foundation shall
8 expand the Graduate Research Fellowship Program
9 of the National Science Foundation so that an addi-
10 tional 1,250 fellowships are awarded to citizens or
11 nationals of the United States or eligible lawful per-
12 manent residents under the Program during that pe-
13 riod.

14 (2) EXTENSION OF FELLOWSHIP PERIOD.—The
15 Director is authorized to award fellowships under
16 the Graduate Research Fellowship Program for a
17 period of up to 5 years.

18 (3) AUTHORIZATION OF APPROPRIATIONS.—
19 Within the amounts authorized to be appropriated
20 by section 4001, there are authorized to be appro-
21 priated, to provide an additional 250 fellowships
22 under the Graduate Research Fellowship Program
23 during each of the fiscal years 2008 through 2011,
24 the following:

25 (A) \$24,000,000 for fiscal year 2008.

26 (B) \$36,000,000 for fiscal year 2009.

1 (C) \$48,000,000 for fiscal year 2010.

2 (D) \$60,000,000 for fiscal year 2011.

3 (b) INTEGRATIVE GRADUATE EDUCATION AND RE-
4 SEARCH TRAINEESHIP PROGRAM.—

5 (1) IN GENERAL.—During the 5-year period be-
6 ginning on the date of the enactment of this Act, the
7 Director shall expand the Integrative Graduate Edu-
8 cation and Research Traineeship program of the Na-
9 tional Science Foundation so that an additional
10 1,250 individuals who are citizens or nationals of the
11 United States or eligible lawful permanent residents
12 are awarded grants under the program during that
13 period.

14 (2) AUTHORIZATION OF APPROPRIATIONS.—
15 Within the amounts authorized to be appropriated
16 by section 4001, there are authorized to be appro-
17 priated, to provide grants to an additional 250 indi-
18 viduals under the Integrative Graduate Education
19 and Research Traineeship program during each of
20 the fiscal years 2008 through 2011, the following:

21 (A) \$22,000,000 for fiscal year 2008.

22 (B) \$33,000,000 for fiscal year 2009.

23 (C) \$44,000,000 for fiscal year 2010.

24 (D) \$55,000,000 for fiscal year 2011.

1 (c) DEFINITION OF ELIGIBLE LAWFUL PERMANENT
2 RESIDENT.—In this section, the term “eligible lawful per-
3 manent resident” means a lawful permanent resident of
4 the United States who declares an intent—

5 (1) to apply for United States citizenship; or

6 (2) to reside in the United States for not less
7 than 5 years after the completion of a graduate fel-
8 lowship or traineeship awarded under this section.

9 **SEC. 4004. PROFESSIONAL SCIENCE MASTER’S DEGREE**
10 **PROGRAMS.**

11 (a) CLEARINGHOUSE.—

12 (1) DEVELOPMENT.—The Director of the Na-
13 tional Science Foundation shall establish a clearing-
14 house, in collaboration with 4-year institutions of
15 higher education (including applicable graduate
16 schools and academic departments), and industries
17 and Federal agencies that employ science-trained
18 personnel, to share program elements used in suc-
19 cessful professional science master’s degree pro-
20 grams and other advanced degree programs related
21 to science, mathematics, technology, and engineer-
22 ing.

23 (2) AVAILABILITY.—The Director shall make
24 the clearinghouse of program elements developed
25 under paragraph (1) available to institutions of

1 higher education that are developing professional
2 science master's degree programs.

3 (b) PROGRAMS.—

4 (1) PROGRAMS AUTHORIZED.—The Director
5 shall award grants to 4-year institutions of higher
6 education to facilitate the institutions' creation or
7 improvement of professional science master's degree
8 programs.

9 (2) APPLICATION.—A 4-year institution of
10 higher education desiring a grant under this section
11 shall submit an application at such time, in such
12 manner, and accompanied by such information as
13 the Director may require. The application shall in-
14 clude—

15 (A) a description of the professional
16 science master's degree program that the insti-
17 tution of higher education will implement;

18 (B) the amount of funding from non-Fed-
19 eral sources, including from private industries,
20 that the institution of higher education shall
21 use to support the professional science master's
22 degree program; and

23 (C) an assurance that the institution of
24 higher education shall encourage students in
25 the professional science master's degree pro-

1 gram to apply for all forms of Federal assist-
2 ance available to such students, including appli-
3 cable graduate fellowships and student financial
4 assistance under titles IV and VII of the High-
5 er Education Act of 1965 (20 U.S.C. 1070 et
6 seq., 1133 et seq.).

7 (3) PREFERENCE FOR APPLICANTS WITH AL-
8 TERNATIVE FUNDING SOURCES.—The Director shall
9 give preference in making awards to 4-year institu-
10 tions of higher education seeking Federal funding to
11 create or improve professional science master’s de-
12 gree programs, to those applicants that secure more
13 than $\frac{2}{3}$ of the funding for such professional science
14 master’s degree programs from sources other than
15 the Federal Government.

16 (4) NUMBER OF GRANTS; TIME PERIOD OF
17 GRANTS.—

18 (A) NUMBER OF GRANTS.—Subject to the
19 availability of appropriated funds, the Director
20 shall award grants under paragraph (1) to a
21 maximum of 200 4-year institutions of higher
22 education.

23 (B) TIME PERIOD OF GRANTS.—Grants
24 awarded under this section shall be for one 3-

1 year term. Grants may be renewed only once
2 for a maximum of 2 additional years.

3 (5) EVALUATION AND REPORTS.—

4 (A) DEVELOPMENT OF PERFORMANCE
5 BENCHMARKS.—Prior to the start of the grant
6 program, the Director of the National Science
7 Foundation, in collaboration with 4-year insti-
8 tutions of higher education (including applicable
9 graduate schools and academic departments),
10 and industries and Federal agencies that em-
11 ploy science-trained personnel, shall develop
12 performance benchmarks to evaluate the pilot
13 programs assisted by grants under this section.

14 (B) EVALUATION.—For each year of the
15 grant period, the Director, in consultation with
16 4-year institutions of higher education (includ-
17 ing applicable graduate schools and academic
18 departments), and industries and Federal agen-
19 cies that employ science-trained personnel, shall
20 complete an evaluation of each program as-
21 sisted by grants under this section. Any pro-
22 gram that fails to satisfy the performance
23 benchmarks developed under subparagraph (A)
24 shall not be eligible for further funding.

1 (C) REPORT.—Not later than 180 days
2 after the completion of an evaluation described
3 in subparagraph (B), the Director shall submit
4 a report to Congress that includes—

5 (i) the results of the evaluation de-
6 scribed in subparagraph (B); and

7 (ii) recommendations for administra-
8 tive and legislative action that could opti-
9 mize the effectiveness of the pilot pro-
10 grams, as the Director determines to be
11 appropriate.

12 (c) INSTITUTION OF HIGHER EDUCATION DE-
13 FINED.—In this section, the term “institution of higher
14 education” has the meaning given that term in section
15 101(a) of the Higher Education Act of 1965 (20 U.S.C.
16 1001(a)).

17 (d) AUTHORIZATION OF APPROPRIATIONS.—Within
18 the amounts authorized to be appropriated by section
19 4001, there are authorized to be appropriated to carry out
20 this section—

21 (1) \$15,000,000 for fiscal year 2008;

22 (2) \$18,000,000 for fiscal year 2009; and

23 (3) \$20,000,000 for each of the fiscal years

24 2010 and 2011.

1 **SEC. 4005. INCREASED SUPPORT FOR SCIENCE EDUCATION**
2 **THROUGH THE NATIONAL SCIENCE FOUNDA-**
3 **TION.**

4 (a) IN GENERAL.—Within the amounts authorized to
5 be appropriated by section 4001, there are authorized to
6 be appropriated to carry out the science, mathematics, en-
7 gineering, and technology talent expansion program under
8 section 8(7) of the National Science Foundation Author-
9 ization Act of 2002 (Public Law 107–368, 116 Stat.
10 3042)—

- 11 (1) \$40,000,000 for fiscal year 2008;
12 (2) \$45,000,000 for fiscal year 2009;
13 (3) \$50,000,000 for fiscal year 2010; and
14 (4) \$55,000,000 for fiscal year 2011.

15 (b) PROMOTING OUTREACH AND HIGH QUALITY.—
16 Section 8(7)(C) of the National Science Foundation Au-
17 thorization Act of 2002 (Public Law 107–368, 116 Stat.
18 3042) is amended—

19 (1) by redesignating clauses (i) through (vi) as
20 subclauses (I) through (VI), respectively, and in-
21 denting appropriately;

22 (2) by striking “include those that promote
23 high quality—” and inserting “include programs
24 that—

25 “(i) promote high-quality—”;

1 (3) in clause (i) (as inserted by paragraph
2 (2))—

3 (A) in subclause (III) (as redesignated by
4 paragraph (1)), by striking “for students;” and
5 inserting “for students, especially underrep-
6 resented minority and female mathematics,
7 science, engineering, and technology students;”;

8 (B) in subclause (V) (as redesignated by
9 paragraph (1)), by striking “and” after the
10 semicolon;

11 (C) in subclause (VI) (as redesignated by
12 paragraph (1)), by striking “students.” and in-
13 serting “students; and”; and

14 (D) by adding at the end the following:

15 “(VII) outreach programs that pro-
16 vide middle and secondary school students
17 and their science and math teachers oppor-
18 tunities to increase the students’ and
19 teachers’ exposure to engineering and tech-
20 nology;”; and

21 (4) by adding at the end the following:

22 “(ii) finance summer internships for math-
23 ematics, science, engineering, and technology
24 undergraduate students;

1 “(iii) facilitate the hiring of additional
2 mathematics, science, engineering, and tech-
3 nology faculty; and

4 “(iv) serve as bridges to enable underrep-
5 resented minority and female secondary school
6 students to obtain extra mathematics, science,
7 engineering, and technology training prior to
8 entering an institution of higher education.”.

9 **SEC. 4006. MEETING CRITICAL NATIONAL SCIENCE NEEDS.**

10 (a) **IN GENERAL.**—In addition to any other criteria,
11 the Director of the National Science Foundation shall in-
12 clude consideration of the degree to which awards and re-
13 search activities that otherwise qualify for support by the
14 National Science Foundation may assist in meeting crit-
15 ical national needs in innovation, competitiveness, the
16 physical and natural sciences, technology, engineering,
17 and mathematics.

18 (b) **PRIORITY TREATMENT.**—The Director shall give
19 priority in the selection of awards and the allocation of
20 National Science Foundation resources to proposed re-
21 search activities, and grants funded under the National
22 Science Foundation’s Research and Related Activities Ac-
23 count, that can be expected to make contributions in phys-
24 ical or natural science, technology, engineering, or mathe-

1 matics, or that enhance competitiveness or innovation in
2 the United States.

3 (c) LIMITATION.—Nothing in this section shall be
4 construed to restrict or bias the grant selection process
5 against funding other areas of research deemed by the Na-
6 tional Science Foundation to be consistent with its man-
7 date nor to change the core mission of the National
8 Science Foundation.

9 **SEC. 4007. REAFFIRMATION OF THE MERIT-REVIEW PROC-**
10 **ESS OF THE NATIONAL SCIENCE FOUNDA-**
11 **TION.**

12 Nothing in this division or division A, or the amend-
13 ments made by this division or division A, shall be inter-
14 preted to require or recommend that the National Science
15 Foundation—

16 (1) alter or modify its merit-review system or
17 peer-review process; or

18 (2) exclude the awarding of any proposal by
19 means of the merit-review or peer-review process.

20 **SEC. 4008. EXPERIMENTAL PROGRAM TO STIMULATE COM-**
21 **PETITIVE RESEARCH.**

22 Within the amounts authorized to be appropriated by
23 section 4001, there are authorized to be appropriated to
24 the National Science Foundation for the Experimental
25 Program to Stimulate Competitive Research authorized

1 under section 113 of the National Science Foundation Au-
2 thorization Act of 1988 (42 U.S.C. 1862g), for each of
3 fiscal years 2008 through 2011, an amount equal to
4 \$125,000,000 increased for each such year by an amount
5 equal to the percentage increase in the appropriation for
6 the National Science Foundation for such fiscal year above
7 the total amount appropriated to the National Science
8 Foundation for fiscal year 2007.

9 **SEC. 4009. ENCOURAGING PARTICIPATION.**

10 (a) MENTORING PROGRAM.—The Director of the Na-
11 tional Science Foundation shall establish a program to re-
12 cruit and provide mentors for women who are interested
13 in careers in science, technology, engineering, and mathe-
14 matics by pairing such women who are in science, tech-
15 nology, engineering, or mathematics programs of study in
16 secondary school, community college, undergraduate or
17 graduate school with mentors who are working in indus-
18 try.

19 (b) ADDITIONAL LEARNING PROGRAM.—The Direc-
20 tor shall also establish a program to provide grants to
21 community colleges to provide additional learning and
22 other appropriate training to allow women to enter higher-
23 paying technical jobs in fields related to science, tech-
24 nology, engineering, or mathematics.

1 (c) APPLICATIONS.—An institution of higher edu-
2 cation, including a community college, desiring a grant
3 under this section shall submit an application at such
4 time, in such manner, and accompanied by such informa-
5 tion as the Director may require.

6 (d) PROGRAM EVALUATION.—The Director shall es-
7 tablish metrics to evaluate the success of the programs
8 established under subsections (a) and (b) annually and re-
9 port the findings and conclusions of the evaluations annu-
10 ally to Congress.

11 **SEC. 4010. CYBERINFRASTRUCTURE.**

12 In order to continue and expand efforts to ensure
13 that research institutions throughout the Nation can fully
14 participate in research programs of the National Science
15 Foundation and collaborate with colleagues throughout
16 the nation, the Director of the National Science Founda-
17 tion, within 180 days after the date of enactment of this
18 Act, shall develop and publish a plan that describes the
19 current status of broadband access for scientific research
20 purposes in States located in EPSCoR-eligible jurisdic-
21 tions and outlines actions which can be taken to ensure
22 that such connections are available to enable participation
23 in those National Science Foundation programs which rely
24 heavily on high-speed networking and collaborations
25 across institutions and regions.

1 **SEC. 4011. FEDERAL INFORMATION AND COMMUNICATIONS**

2 **TECHNOLOGY RESEARCH.**

3 (a) **ADVANCED INFORMATION AND COMMUNICATIONS**

4 **TECHNOLOGY RESEARCH.—**

5 (1) **NATIONAL SCIENCE FOUNDATION INFORMA-**

6 **TION AND COMMUNICATIONS TECHNOLOGY RE-**

7 **SEARCH.—**The Director of the National Science

8 Foundation shall establish a program of basic re-

9 search in advanced information and communications

10 technologies focused on enhancing or facilitating the

11 availability and affordability of advanced commu-

12 nications services to all people of the United States.

13 In developing and carrying out the program, the Di-

14 rector shall consult with the Board established under

15 paragraph (2).

16 (2) **FEDERAL ADVANCED INFORMATION AND**

17 **COMMUNICATIONS TECHNOLOGY RESEARCH**

18 **BOARD.—**There is established within the National

19 Science Foundation a Federal Advanced Information

20 and Communications Technology Research Board

21 (referred to in this subsection as “the Board”)

22 which shall advise the Director of the National

23 Science Foundation in carrying out the program au-

24 thorized under paragraph (1). The Board shall be

25 composed of individuals with expertise in informa-

26 tion and communications technologies, including rep-

1 representatives from the National Telecommunications
2 and Information Administration, the Federal Com-
3 munications Commission, the National Institute of
4 Standards and Technology, and the Department of
5 Defense, and representatives from industry and edu-
6 cational institutions.

7 (3) GRANT PROGRAM.—The Director of the Na-
8 tional Science Foundation, in consultation with the
9 Board, shall award grants for basic research into ad-
10 vanced information and communications technologies
11 that will contribute to enhancing or facilitating the
12 availability and affordability of advanced commu-
13 nications services to all people of the United States.
14 Areas of research to be supported through the
15 grants include—

16 (A) affordable broadband access, including
17 wireless technologies;

18 (B) network security and reliability;

19 (C) communications interoperability;

20 (D) networking protocols and architec-
21 tures, including resilience to outages or attacks;

22 (E) trusted software;

23 (F) privacy;

24 (G) nanoelectronics for communications
25 applications;

1 (H) low-power communications electronics;

2 (I) implementation of equitable access to
3 national advanced fiber optic research and edu-
4 cational networks in noncontiguous States; and

5 (J) such other related areas as the Direc-
6 tor, in consultation with the Board, finds ap-
7 propriate.

8 (4) CENTERS.—The Director shall award
9 multiyear grants, subject to the availability of appro-
10 priations, to institutions of higher education (as de-
11 fined in section 101(a) of the Higher Education Act
12 of 1965 (20 U.S.C. 1001(a)), nonprofit research in-
13 stitutions affiliated with institutions of higher edu-
14 cation, or consortia thereof to establish multidisci-
15 plinary Centers for Communications Research. The
16 purpose of the Centers shall be to generate innova-
17 tive approaches to problems in communications and
18 information technology research, including the re-
19 search areas described in paragraph (3). Institutions
20 of higher education, nonprofit research institutions
21 affiliated with institutions of higher education, or
22 consortia receiving such grants may partner with 1
23 or more government laboratories or for-profit enti-
24 ties, or other institutions of higher education or non-
25 profit research institutions.

1 (5) APPLICATIONS.—The Director of the Na-
2 tional Science Foundation, in consultation with the
3 Board, shall establish criteria for the award of
4 grants under paragraphs (3) and (4). Such grants
5 shall be awarded under the programs on a merit-re-
6 viewed competitive basis. The Director shall give pri-
7 ority to grants that offer the potential for revolu-
8 tionary rather than evolutionary breakthroughs.

9 (6) AUTHORIZATION OF APPROPRIATIONS.—
10 Within the amounts authorized to be appropriated
11 by section 4001, there are authorized to be appro-
12 priated to the National Science Foundation to carry
13 out this subsection—

- 14 (A) \$45,000,000 for fiscal year 2008;
15 (B) \$50,000,000 for fiscal year 2009;
16 (C) \$55,000,000 for fiscal year 2010; and
17 (D) \$60,000,000 for fiscal year 2011.

18 (b) NATIONAL INSTITUTE OF STANDARDS AND
19 TECHNOLOGY RESPONSIBILITIES.—The Director of the
20 National Institute of Standards and Technology shall con-
21 tinue to support research and support standards develop-
22 ment in advanced information and communications tech-
23 nologies focused on enhancing or facilitating the avail-
24 ability and affordability of advanced communications serv-
25 ices to all people of the United States, in order to imple-

1 ment the Institute’s responsibilities under section 2(c)(12)
2 of the National Institute of Standards and Technology Act
3 (15 U.S.C. 272(c)(12)). The Director shall support intra-
4 mural research and cooperative research with institutions
5 of higher education (as defined in section 101(a) of the
6 Higher Education Act of 1965 (20 U.S.C. 1001(a)) and
7 industry.

8 **SEC. 4012. ROBERT NOYCE TEACHER SCHOLARSHIP PRO-**
9 **GRAM.**

10 (a) IN GENERAL.—Section 10 of the National
11 Science Foundation Authorization Act of 2002 (42 U.S.C.
12 1862n–1) is amended—

13 (1) in the section heading, by inserting
14 “**TEACHER**” after “**NOYCE**”;

15 (2) in subsection (a)—

16 (A) in paragraph (1)—

17 (i) by striking “to provide scholar-
18 ships, stipends, and programming de-
19 signed”;

20 (ii) by inserting “and to provide schol-
21 arships and stipends to students partici-
22 pating in the program” after “science
23 teachers”; and

24 (iii) by inserting “Teacher” after
25 “Noyce”;

- 1 (B) in paragraph (3)—
- 2 (i) in subparagraph (A)—
- 3 (I) in the matter preceding clause
- 4 (i)—
- 5 (aa) by striking “encourage
- 6 top college juniors and seniors
- 7 majoring in” and inserting “re-
- 8 cruit and prepare undergraduate
- 9 students to pursue degrees in”;
- 10 and
- 11 (bb) by striking “to become”
- 12 and inserting “and become quali-
- 13 fied as”;
- 14 (II) in clause (ii)—
- 15 (aa) by striking “programs
- 16 to help scholarship recipients”
- 17 and inserting “academic courses
- 18 and clinical teaching experiences
- 19 designed to prepare students par-
- 20 ticipating in the program”;
- 21 (bb) by striking “programs
- 22 that will result in” and inserting
- 23 “such preparation as is necessary
- 24 to meet requirements for”; and

1 (cc) by striking “licensing;
2 and” and inserting “licensing;”;
3 (III) in clause (iii)—

4 (aa) by striking “scholarship
5 recipients” and inserting “stu-
6 dents participating in the pro-
7 gram”;

8 (bb) by striking “enable the
9 recipients” and inserting “enable
10 the students”; and

11 (cc) by striking “; or” and
12 inserting “; and”; and

13 (IV) by adding at the end the fol-
14 lowing:

15 “(iv) providing summer internships
16 for freshman and sophomore students par-
17 ticipating in the program; or”; and

18 (ii) in subparagraph (B)—

19 (I) in the matter preceding clause
20 (i)—

21 (aa) by striking “encourage”
22 and inserting “recruit and pre-
23 pare”; and

24 (bb) by inserting “qualified
25 as” after “to become”;

1 (II) by striking clause (ii) and in-
2 serting the following:

3 “(ii) offering academic courses and
4 clinical teaching experiences designed to
5 prepare stipend recipients to teach in ele-
6 mentary schools and secondary schools, in-
7 cluding such preparation as necessary to
8 meet requirements for teacher certification
9 or licensing;” and

10 (C) by adding at the end the following:

11 “(4) ELIGIBILITY REQUIREMENT.—To be eligi-
12 ble for an award under this section, an institution
13 of higher education (or a consortium of such institu-
14 tions) shall ensure that specific faculty members and
15 staff from the mathematics, science, or engineering
16 department of the institution (or a participating in-
17 stitution of the consortium) and specific education
18 faculty members of the institution (or such partici-
19 pating institution) are designated to carry out the
20 development and implementation of the program. An
21 institution of higher education (or consortium) may
22 also include teachers to participate in developing the
23 pedagogical content of the program and to supervise
24 students participating in the program in their field
25 teaching experiences. No institution of higher edu-

1 cation (or consortium) shall be eligible for an award
2 unless faculty from the institution's mathematics,
3 science, or engineering department are active partici-
4 pants in the program.”;

5 (3) in subsection (b)—

6 (A) in paragraph (1)—

7 (i) in subparagraph (A)—

8 (I) by striking “scholarship or
9 stipend”;

10 (II) by inserting “and summer
11 internships” after “number of scholar-
12 ships”; and

13 (III) by inserting “the type of ac-
14 tivities proposed for the recruitment
15 of students to the program,” after
16 “intends to award,”;

17 (ii) in subparagraph (B)—

18 (I) by striking “scholarship or
19 stipend”; and

20 (II) by striking “; and” and in-
21 sserting “, which may include a de-
22 scription of any existing programs at
23 the applicant's institution that are
24 targeted to the education of science
25 and mathematics teachers and the

1 number of teachers graduated annu-
2 ally from such programs;” and

3 (iii) by striking subparagraph (C) and
4 inserting the following:

5 “(C) a description of the academic courses
6 and clinical teaching experiences required under
7 subparagraph (A)(ii) or B)(ii) of subsection
8 (a)(3), including—

9 “(i) a description of the under-
10 graduate program that will enable a stu-
11 dent to graduate in 4 years with a major
12 in mathematics, science, or engineering
13 and to obtain teacher certification or li-
14 censing;

15 “(ii) a description of clinical teaching
16 experiences proposed; and

17 “(iii) evidence of agreements between
18 the applicant and the schools or school dis-
19 tricts that are identified as the locations at
20 which clinical teaching experiences will
21 occur;

22 “(D) a description of the programs re-
23 quired under subparagraph (A)(iii) or (B)(iii)
24 of subsection (a)(3), including activities to as-

1 sist new teachers in fulfilling their service re-
2 quirements under this section; and

3 “(E) an identification of the applicant’s
4 mathematics, science, or engineering faculty
5 and its education faculty who will carry out the
6 development and implementation of the pro-
7 gram as required under subsection (a)(4).”;

8 (B) in paragraph (2)—

9 (i) by redesignating subparagraphs
10 (B) through (E) as subparagraphs (C)
11 through (F), respectively; and

12 (ii) by inserting after subparagraph
13 (A) the following:

14 “(B) the extent to which the applicant’s
15 mathematics, science, or engineering faculty
16 and its education faculty have worked or will
17 work collaboratively to design new or revised
18 curricula that recognize the specialized peda-
19 gogy required to teach mathematics and science
20 effectively in elementary schools and secondary
21 schools;”;

22 (4) in subsection (c)—

23 (A) in paragraph (3)—

24 (i) by striking “\$7,500” and inserting
25 “\$10,000”; and

1 (ii) by striking “of scholarship sup-
2 port” and inserting “of scholarship sup-
3 port, unless the Director establishes a pol-
4 icy by which part-time students may re-
5 ceive additional years of support”; and

6 (B) in paragraph (4), by inserting “, with
7 a maximum service requirement of 4 years”
8 after “was received”;

9 (5) in subsection (d)—

10 (A) in paragraph (2), by inserting “and
11 professional achievement” after “academic
12 merit”; and

13 (B) in paragraph (4), by striking “for each
14 year a stipend was received”;

15 (6) in subsection (g)—

16 (A) in paragraph (1), by inserting “or sti-
17 pend” after scholarship; and

18 (B) by striking paragraph (2) and insert-
19 ing the following:

20 “(2) REPAYMENT FOR FAILURE TO COMPLETE
21 SERVICE.—

22 “(A) LESS THAN 1 YEAR OF SERVICE.—If
23 a circumstance described in paragraph (1) oc-
24 curs before the completion of 1 year of a service
25 obligation under this section, the sum of the

1 total amount of awards received by the indi-
2 vidual under this section shall be treated as a
3 loan payable to the Federal Government, con-
4 sistent with the provisions of part B or D of
5 title IV of the Higher Education Act of 1965,
6 and shall be subject to repayment in accordance
7 with terms and conditions specified by the Sec-
8 retary of Education in regulations promulgated
9 to carry out this paragraph.

10 “(B) 1 YEAR OR MORE OF SERVICE.—If a
11 circumstance described in subparagraph (D) or
12 (E) of paragraph (1) occurs after the comple-
13 tion of 1 year of a service obligation under this
14 section, an amount equal to $\frac{1}{2}$ of the sum of
15 the total amount of awards received by the indi-
16 vidual under this section shall be treated as a
17 loan payable to the Federal Government, con-
18 sistent with the provisions of part B or D of
19 title IV of the Higher Education Act of 1965,
20 and shall be subject to repayment in accordance
21 with terms and conditions specified by the Sec-
22 retary of Education in regulations promulgated
23 to carry out this paragraph.”;

24 (7) by redesignating subsection (i) as subsection

25 (k);

1 (8) by inserting after subsection (h) the fol-
2 lowing:

3 “(i) SCIENCE AND MATHEMATICS SCHOLARSHIP
4 GIFT FUND.—In accordance with section 11(f) of the Na-
5 tional Science Foundation Act of 1950, the Director is au-
6 thorized to accept donations from the private sector to
7 supplement, but not supplant, scholarships, stipends, or
8 internships associated with the programs under this sec-
9 tion.

10 “(j) ASSESSMENT OF TEACHER RETENTION.—Not
11 later than 4 years after the date of enactment of the
12 America COMPETES Act, the Director shall transmit to
13 Congress a report on the effectiveness of the program car-
14 ried out under this section regarding the retention of par-
15 ticipants in the teaching profession beyond the service ob-
16 ligation required under this section.”;

17 (9) in subsection (k) (as redesignated by para-
18 graph (7))—

19 (A) by redesignating paragraphs (2)
20 through (5) as paragraphs (3) through (6), re-
21 spectively;

22 (B) by inserting after paragraph (1) the
23 following:

24 “(2) the term ‘high-need local educational agen-
25 cy’ means a local educational agency or educational

1 service agency (as defined in section 9101 of the El-
2 elementary and Secondary Education Act of 1965)—

3 “(A)(i) that serves not less than 10,000
4 children from low-income families;

5 “(ii) for which not less than 20 percent of
6 the children served by the agency are children
7 from low-income families; or

8 “(iii) with a total of less than 600 students
9 in average daily attendance at the schools that
10 are served by the agency, and all of whose
11 schools are designated with a school locale code
12 of 6, 7, or 8, as determined by the Secretary of
13 Education; and

14 “(B)(i) for which there is a higher percent-
15 age of teachers providing instruction in aca-
16 demic subject areas or grade levels for which
17 the teachers are not highly qualified; or

18 “(ii) for which there is a high teacher
19 turnover rate or a high percentage of teachers
20 with emergency, provisional, or temporary cer-
21 tification or licensure;” and

22 (C) in paragraph (4) (as redesignated by
23 subparagraph (A)) by inserting “or had a ca-
24 reer” after “is working”; and

25 (10) by adding at the end the following:

1 “(1) AUTHORIZATION OF APPROPRIATIONS.—

2 “(1) IN GENERAL.—Within the amounts au-
3 thORIZED to be appropriated by section 4001 of the
4 America COMPETES Act and except as provided in
5 paragraph (2), there are authorized to be appro-
6 priated to the Director for the Robert Noyce Teach-
7 er Scholarship Program under this section—

8 “(A) \$117,000,000 for fiscal year 2008, of
9 which at least \$18,000,000 shall be used for ca-
10 pacity building activities described in clauses
11 (ii) and (iii) of subsection (a)(3)(A) and clauses
12 (ii) and (iii) of subsection (a)(3)(B);

13 “(B) \$130,000,000 for fiscal year 2009, of
14 which at least \$21,000,000 shall be used for
15 such capacity building activities;

16 “(C) \$148,000,000 for fiscal year 2010, of
17 which at least \$24,000,000 shall be used for
18 such capacity building activities; and

19 “(D) \$200,000,000 for fiscal year 2011, of
20 which at least \$27,000,000 shall be used for
21 such capacity building activities.

22 “(2) EXCEPTION.—For any fiscal year for
23 which the funding allocated for activities under this
24 section is less than \$105,000,000, the amount of
25 funding available for capacity building activities de-

1 scribed in subparagraphs (A) through (D) of para-
 2 graph (1) shall not exceed 15 percent of the allo-
 3 cated funds.”.

4 (b) CONFORMING AMENDMENTS.—

5 (1) SECTION 4.—Section 4 of the National
 6 Science Foundation Authorization Act of 2002 (42
 7 U.S.C. 1862n note) is amended in the matter pre-
 8 ceding paragraph (1) by striking “In this Act:” and
 9 inserting “Except as otherwise provided, in this
 10 Act:”.

11 (2) SECTION 8.—Section 8(6) of the National
 12 Science Foundation Authorization Act of 2002 (Pub-
 13 lic Law 107–368) is amended—

14 (A) in the paragraph heading, by inserting

15 “TEACHER” after “NOYCE”; and

16 (B) by inserting “Teacher” after “Noyce”.

17 **SEC. 4013. SENSE OF THE SENATE REGARDING THE MATHE-**
 18 **MATICS AND SCIENCE PARTNERSHIP PRO-**
 19 **GRAMS OF THE DEPARTMENT OF EDUCATION**
 20 **AND THE NATIONAL SCIENCE FOUNDATION.**

21 It is the sense of the Senate that—

22 (1) although the mathematics and science edu-
 23 cation partnership program at the National Science
 24 Foundation and the mathematics and science part-
 25 nership program at the Department of Education

1 practically share the same name, the 2 programs are
2 intended to be complementary, not duplicative;

3 (2) the National Science Foundation partner-
4 ship programs are innovative, model reform initia-
5 tives that move promising ideas in education from
6 research into practice to improve teacher quality, de-
7 velop challenging curricula, and increase student
8 achievement in mathematics and science, and Con-
9 gress intends that the National Science Foundation
10 peer-reviewed partnership programs found to be ef-
11 fective should be put into wider practice by dissemi-
12 nation through the Department of Education part-
13 nership programs; and

14 (3) the Director of the National Science Foun-
15 dation and the Secretary of Education should have
16 ongoing collaboration to ensure that the 2 compo-
17 nents of this priority effort for mathematics and
18 science education continue to work in concert for the
19 benefit of States and local practitioners nationwide.

20 **SEC. 4014. NATIONAL SCIENCE FOUNDATION TEACHER IN-**
21 **STITUTES FOR THE 21ST CENTURY.**

22 (a) **AUTHORIZATION OF APPROPRIATIONS.**—Within
23 the amounts authorized to be appropriated by section
24 4001, there are authorized to be appropriated to carry out
25 the teacher institutes for the 21st century under para-

1 graphs (3) and (7) of section 9(a) of the National Science
2 Foundation Authorization Act of 2002 (as amended by
3 subsection (b)) (42 U.S.C. 1862n(a))—

- 4 (1) \$84,000,000 for fiscal year 2008;
- 5 (2) \$94,000,000 for fiscal year 2009;
- 6 (3) \$106,000,000 for fiscal year 2010; and
- 7 (4) \$140,000,000 for fiscal year 2011.

8 (b) TEACHER INSTITUTES FOR THE 21ST CEN-
9 TURY.—Section 9(a) of the National Science Foundation
10 Authorization Act of 2002 (42 U.S.C. 1862n(a)) is
11 amended—

12 (1) in paragraph (3)(B), by striking “summer
13 or” and inserting “teacher institutes for the 21st
14 century, as described in paragraph (7),”;

15 (2) by redesignating paragraph (7) as para-
16 graph (8); and

17 (3) by inserting after paragraph (6) the fol-
18 lowing:

19 “(7) TEACHER INSTITUTES FOR THE 21ST CEN-
20 TURY.—

21 “(A) IN GENERAL.—Teacher institutes for
22 the 21st century carried out in accordance with
23 paragraph (3)(B) shall—

1 “(i) be carried out in conjunction with
2 a school served by the local educational
3 agency in the partnership;

4 “(ii) be science, technology, engineer-
5 ing, and mathematics focused institutes
6 that provide professional development to
7 elementary school and secondary school
8 teachers during the summer;

9 “(iii) serve teachers who are consid-
10 ered highly qualified (as defined in section
11 9101 of the Elementary and Secondary
12 Education Act of 1965), teach high-need
13 subjects, and teach in high-need schools
14 (as described in section 1114(a)(1) of the
15 Elementary and Secondary Education Act
16 of 1965);

17 “(iv) focus on the theme and struc-
18 ture developed by the Director under sub-
19 paragraph (C);

20 “(v) be content-based and build on
21 school year curricula that are experiment-
22 oriented, content-based, and grounded in
23 current research;

24 “(vi) ensure that the pedagogy compo-
25 nent is designed around specific strategies

1 that are relevant to teaching the subject
2 and content on which teachers are being
3 trained, which may include training teach-
4 ers in the essential components of reading
5 instruction for adolescents in order to im-
6 prove student reading skills within the sub-
7 ject areas of science, technology, engineer-
8 ing, and mathematics;

9 “(vii) be a multiyear program that is
10 conducted for a period of not less than 2
11 weeks per year;

12 “(viii) provide for direct interaction
13 between participants in and faculty of the
14 teacher institute;

15 “(ix) have a component that includes
16 the use of the Internet;

17 “(x) provide for followup training in
18 the classroom during the academic year for
19 a period of not less than 3 days, which
20 may or may not be consecutive, for partici-
21 pants in the teacher institute, except that
22 for teachers in rural local educational
23 agencies, the followup training may be pro-
24 vided through the Internet;

1 “(xi) provide teachers participating in
2 the teacher institute with travel expense
3 reimbursement and classroom materials re-
4 lated to the teacher institute, and may in-
5 clude providing stipends as necessary; and

6 “(xii) establish a mechanism to pro-
7 vide supplemental support during the aca-
8 demic year for teacher institute partici-
9 pants to apply the knowledge and skills
10 gained at the teacher institute.

11 “(B) OPTIONAL MEMBERS OF THE PART-
12 NERSHIP.—In addition to the partnership re-
13 quirement under paragraph (2), an institution
14 of higher education or eligible nonprofit organi-
15 zation (or consortium) desiring a grant for a
16 teacher institute for the 21st century may also
17 partner with a teacher organization, museum,
18 or educational partnership organization.

19 “(C) THEME AND STRUCTURE.—Each
20 year, not later than 180 days before the appli-
21 cation deadline for a grant under this section,
22 the Director shall, in consultation with a broad
23 group of relevant education organizations, de-
24 velop a theme and structure for the teacher in-

- 1 stitutes of the 21st century supported under
- 2 paragraph (3)(B).”.

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1ST Session

S. 761

A BILL

To invest in innovation and education to improve the competitiveness of the United States in the global economy.

MARCH 6, 2007

Read the second time and placed on the calendar