

The American COMPETES Act

Section-By-Section Analysis

Section 1. Short Title.

Section 1 would provide that the legislation be cited as the “America COMPETES Act.”

Section 2. Organization of Act into Divisions; Table of Contents.

Section 2 would organize the legislation into four divisions. Division A would contain sections related to commerce and science; Division B would contain sections related to the Department of Energy; Division C would contain sections related to education; Division D would contain sections related to the National Science Foundation. This section would also provide a Table of Contents for the legislation.

DIVISION A – COMMERCE AND SCIENCE

Section 1001. Short Title.

This section would provide that this division may be cited as the “America COMPETES Act.”

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

Section 1101. National Science and Technology Summit.

This section would require the President to convene a National Science and Technology Summit within 180 days of enactment to evaluate the health and direction of nation’s science and technology enterprise and to identify key research and technology challenges and recommendations for research and development investment over the next five years as a result of the summit.

Section 1102. Study on Barriers to Innovation.

Section 1102 would require the Director of the Office of Science and Technology Policy to enter into a contract with the National Academy of Sciences to conduct a study to identify forms of risk that create barriers to innovation one year after enactment and four years after enactment. The study is intended to support research on the long-term value of innovation to the business community and to identify means to mitigate risks presently associated with such innovation activities.

Section 1103. National Innovation Medal.

Section 1103 amends Section 16 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711) to rename the “National Technology Medal” as the “National Technology and Innovation Medal.”

Section 1104. Release of Scientific Research Results.

Section 1104 would require the Director of the Office of Science and Technology Policy (OSTP), in consultation with the Director of the Office of Management and Budget and the heads of all federal civilian agencies that conduct scientific research to develop and issue a set of principles for the communication of scientific information by government scientists, policy makers, and managers to the public within 90 days after the date of enactment of this Act. It is based upon recommendations from the National Science Board’s review of the policies of federal science agencies concerning the suppression and distortion of research findings and their impact on the quality and credibility of all future government-sponsored scientific research results.

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

Section 1105 expresses a Sense of Congress that OSTP should encourage all elementary and middle schools to observe a Science, Technology, Engineering and Mathematics Day twice in every school year for the purpose of facilitating the interaction of science, technology, engineering, and mathematics mentors and grade school students. This section also expresses a Sense of Congress that OSTP should encourage involvement of federal employees, the private sector and institutions of higher learning in such days.

Section 1106. Study on Service Science.

Section 1106 would express a Sense of Congress that the Federal Government should better understand and respond strategically to the emerging management and learning discipline known as, “service science.”

Subsection (b) would require the Director of OSTP, through the National Academy of Sciences, to conduct a study on how the Federal Government should best support service science through research, education, and training.

TITLE II- INNOVATION PROMOTION

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

Section 1201 requires the President to establish a President’s Council on Innovation and Competitiveness to develop a comprehensive agenda to promote innovation in the public and private sectors. The Council, which could be constituted by designating an existing body to perform its functions, would include the Secretaries of Commerce, Defense, Education, Health and Human Services, Homeland Security, Labor, and Treasury along with the heads of the National Aeronautics and Space Administration, the Securities and Exchange Commission, the

National Science Foundation, the Office of the United States Trade Representative, the Office of Management and Budget, the Office of Science and Technology Policy, the Environmental Protection Agency, and other relevant federal agencies involved in innovation. As the President's Council on Innovation and Competitiveness develops a comprehensive agenda for strengthening innovation and competitiveness it should consult with advisors from the private sector, labor, scientific organizations, academic organizations, and other nongovernmental organizations working in the area of science or technology.

Section 1202. Innovation Acceleration Research.

Section 1202 would require the President, through the head of each federal research agency, to establish the "Innovation Acceleration Research Program" to support and promote innovation in the United States by requiring each department or agency that sponsors scientific research to set as a goal 8% of its annual research budget to be directed towards innovation acceleration research.

TITLE III - NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Section 1301. NASA's Contribution to Innovation.

Section 1301 would direct that NASA be regarded as a full participant in interagency activities to promote competitiveness and innovation and to enhance science, technology, engineering and mathematics education. It would identify NASA's balanced science program as an essential part of NASA's contribution to innovation in and the economic competitiveness of the United States and that funding NASA at the levels authorized in the NASA Authorization Act of 2005 (P.L. 109-155) would enable NASA's programs to contribute to U.S. innovation and competitiveness.

Section 1302. Aeronautics Institute for Research.

Section 1302 would consolidate NASA's aeronautics research authorized under the NASA Authorization Act of 2005 (P.L. 109-155) into an Aeronautics Institute for Research within NASA. Subsection (c) would require the Institute to cooperate with relevant programs in the Department of Transportation, the Department of Defense, the Department of Commerce, and the Department of Homeland Security, including the Joint Planning and Development Office established under the VISION 100-Century of Aviation Reauthorization Act (P.L. 108-176). The Aeronautics Institute would be allowed to accept assistance, staff, and funding from other federal departments and agencies.

Section 1303. Basic Research Enhancement.

Section 1303 would establish, within NASA, a Basic Research Executive Council to oversee the distribution and management of programs and resources engaged in support of basic research activity including the most senior agency official representing the space science, earth science, life and microgravity sciences, and aeronautical research. The duties of the Council will be to set criteria for identification of basic research, set priority of research activity, review and

evaluate research activity, make recommendations regarding needed adjustments in research activities, and provide annual reports to Congress on research activities.

Section 1304. Aging Workforce Issues Program.

Section 1304 would express a Sense of Congress that the Administrator of NASA should implement a program to address aging workforce issues in aerospace that would (1) document technical and management experiences of senior NASA employees before they leave NASA; (2) provide incentives for retirees to return to NASA to teach new NASA employees about their lessons and experiences; (3) provide for the development of an award to recognize and reward senior NASA employees for their contributions to knowledge sharing.

Section 1305. Conforming Amendments.

Section 1305 would amend Section 101(d) of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16611(d)) by adding that the assessment undertaken by NASA examine the number and content of science activities which may be considered as fundamental, or basic research, whether incorporated within specific missions or conducted independently of any specific mission. In addition, this section would require NASA to assess how NASA science activities can best be structured to ensure that basic and fundamental research can be effectively maintained and coordinated in response to national goals in competitiveness and innovation.

Section 1306. Fiscal Year 2008 Basic Science and Research Funding.

Section 1306 provides additional authorization, above the levels authorized in the National Aeronautics and Space Administration Act of 2005 (P.L. 109-155), of \$160 million for the funding of basic science and research for fiscal year 2008. The availability of these funds is made contingent upon unobligated balances being available to the NASA.

TITLE IV- NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Section 1401. Authorization of Appropriations.

Section 1401 would authorize appropriations for the National Institute of Standards and Technology (NIST) from FY 2008 through FY 2011, including authorizations for the Hollings Manufacturing Extension Partnership Program (MEP). The MEP authorizations would be taken from the authorizations provided for NIST. Authorization levels would be set as follows:

	FY 2008	FY 2009	FY 2010	FY 2011
NIST Total	\$703.611	\$773.972	\$851.369	\$936.506
MEP	\$115	\$120	\$125	\$130

All amounts are in millions.

Section 1402. Amendments to the Stevenson-Wydler Technology Innovation Act of 1980.

Section 1402 would eliminate the Under Secretary of Commerce for Technology at the Department of Commerce and the related Technology Administration at the Department of Commerce.

Section 1403. Innovation Acceleration.

Section 1403 would establish the Innovation Acceleration Research Program of Section 1202 at NIST, to be known as the “Standards and Technology Acceleration Research Program” to support and promote innovation in the United States through high-risk, high-reward research and set aside no less than 8 percent of the funds made available to the measurement laboratories at NIST each year for the program.

Section 1404. Manufacturing Extension.

Section 1404 would amend Section 25(c)(5) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(c)(5)) by inserting a probationary program for MEP centers that have not received a satisfactory rating. If the issues of a center are not addressed in one year, the Director would be required to conduct a competition to select a new operator for the center.

Subsection (b) would allow the acceptance of funds from other federal agencies and the private sector by the Secretary of Commerce and Director to strengthen U.S. manufacturing. Any private sector funding would not be considered a part of the federal share for the purpose of center cost-sharing. Funding accepted from other federal departments or agencies may be considered in the calculation of the federal share of capital and annual operating and maintenance costs under 15 U.S.C. 278k(c).

Section 1405. Experimental Program to Stimulate Competitive Technology.

Section 1405 would re-establish the Experimental Program to Stimulate Competitive Technology (EPSCoT), previously managed by the Technology Administration, at NIST.

Subsection (d) would require that in making awards under this section, the Director of NIST shall ensure that the awards are awarded on a competitive basis that includes a review of the merits of the activities that are subject to the award. A special emphasis would be given to those projects which would increase the participation of women, Native Americans (including Native Hawaiians and Alaska Natives), and other underrepresented groups in science and technology. Subsection (d)(2) would impose a matching requirement that not less than 50 percent of the cost of activities (other than planning activities) carried out by an EPSCoT award be funded by non-federal sources.

Section 1406. Technical Amendments to the NIST Act and Other Technical Amendments.

Section 1406 would make several technical amendments to the NIST Act. Subsection (a) would lift the limitation on NIST-sponsored research fellowships under current law. Subsection (b) would clarify NIST's authority to issue grants and cooperative agreements, along with contracts, cooperative research and development agreements, and other appropriate instruments, bringing NIST authority into conformance with the Federal Grant and Cooperative Agreement Act (31 U.S.C. 6301-08). The subsection also would clarify NIST's authority to purchase memberships in scientific organizations and pay registration fees for NIST employees' attendance at conferences.

Subsection (c) would permit NIST to utilize a portion of its operating funds in the production of high priority Standard Reference Materials and ensure that, once recovered through sales, the working capital fund resources are available to maintain future supplies. In addition, this authority would permit funds transferred to NIST from other federal agencies for the production of Standard Reference Materials to be transferred to the fund.

Subsection (d) would update several measurements found in statute to be consistent with current practice and internationally recognized standards.

Subsection (e) would allow NIST to retain the depreciation surcharge that is assessed against all federal agencies and returned to the Treasury for the upkeep of public buildings.

Subsection (f) would strike NIST authority for the Non-Energy Inventions program. This program is no longer operated by NIST. Rather, it is now operated by the Department of Energy.

TITLE V – OCEAN AND ATMOSPHERIC PROGRAMS.

Section 1501. Ocean and Atmospheric Research and Development Program.

Section 1501 would require the Administrator of the National Oceanic and Atmospheric Administration (NOAA), in consultation with the Director of NSF and the Administrator of NASA, to establish a coordinated program of ocean and atmospheric research and development to promote United States leadership in ocean and atmospheric science.

Section 1502. NOAA Ocean and Atmospheric Science Education Programs.

Section 1502 would require the Administrator of NOAA to conduct, develop, support, promote, and coordinate formal and informal educational activities at all levels to enhance public awareness and understanding of ocean, coastal, and atmospheric science and stewardship by the general public. In conducting those activities the administrator shall build upon the existing educational programs and activities of the agency.

Subsection (b) would require the Administrator of NOAA, appropriate NOAA programs, ocean and atmospheric science and education experts, and interested members of the public to develop a science education plan that would set forth education goals and strategies for NOAA, as well as programmatic actions to carry out such goals and priorities over the next 20 years. This plan would be reevaluated and updated every 5 years.

DIVISION B – DEPARTMENT OF ENERGY

Section 2001. Short Title.

Section 2001 would specify that this Division may be referred to as the, “Protecting America’s Competitive Edge Act through Energy (PACE-Energy) Act.”

Section 2002. Definitions.

Section 2002 would provide definitions for purposes of the Division.

Section 2003. Mathematics, Science and Engineering Education at the Department of Energy.

Section 2003 would create a, “Director of Mathematics, Science and Engineering Education Programs” at the Department of Energy to coordinate all Mathematics, Science, and Engineering Education Department-wide. The Director would report to the Undersecretary of Science. Section 2003 would also amend the Department of Energy Science Education Enhancement Act to establish new programs in science, mathematics, and engineering education, including:

Specialty Schools for Math and Science – This portion of Section 2003 would create a competitive grant program to assist States in establishing or expanding public, statewide specialty schools that provide comprehensive mathematics, science, and engineering education. In addition, this portion of Section 2003 would authorize scientific and engineering staff of the National Laboratories to assist in teaching courses in statewide specialty schools in mathematics and science education, and to use National Laboratory scientific equipment in the teaching of courses. This portion of Section 2003 would authorize \$140 million over 4 years for these schools.

Experiential-Based Learning Opportunities – This portion of Section 2003 would establish summer internships, including internships at the National Laboratories, for middle and high school students to promote experiential, hands-on learning in math and science. This portion of Section 2003 would authorize \$15 million annually for this program from fiscal year 2008 through fiscal year 2011.

National Laboratories Centers of Excellence in Mathematics and Science Education – This portion of Section 2003 would establish a program at each of the National Laboratories to support a Center of Excellence in Mathematics and Science at one public secondary school located in the region of the national laboratory. This portion of Section

2003 would also require the Secretary to consider the performance of these Centers in determining the contract award fee for the management and operations contractor of each national laboratory.

Summer Institutes – This portion of Section 2003 would establish a program of summer institutes at each of the National Laboratories, and through grants to universities and other nonprofit entities, to strengthen the math and science teaching skills of K-12 teachers. This portion of Section 2003 would authorize \$190 million over 4 years for these institutes.

Nuclear Science Education – This portion of Section 2003 would create a program for competitive, merit-based grants to universities that establish or expand nuclear science and engineering degree programs. This portion of Section 2003 would authorize approximately \$140 million over 4 years for these grants.

Section 2004. Department of Energy Early Career Research Grants.

Section 2004 would authorize research grants for early-career scientists and engineers pursuing innovative, independent research. Eligible individuals must have completed a doctorate within the previous 10 years, and must show promise in a field of science or technology. Grants awarded under this section would be for 5 years at a level of up to \$100,000 per year during the grant period. Section 2004 would authorize \$91 million over 4 years for this program.

Section 2005. Advanced Research Projects Authority–Energy.

Section 2005 would establish the Advanced Research Projects Authority – Energy (ARPA-E) as a new agency within the Department of Energy. The mission of ARPA-E would be to support research with the potential to overcome long-term, high-risk technological barriers in the development of applied energy technologies (including carbon neutral technologies). The Director of ARPA-E would report to the Undersecretary of Science. An external advisory board would recommend to the Director, on an annual basis, key areas of energy research to include in the ARPA-E research portfolio.

Section 2006. Authorization of Appropriations for the Department of Energy Office of Science.

Section 2006 would authorize a doubling of Office of Science funding over ten years. This rate of increase matches that in the President’s American Competitiveness Initiative. The FY08 request for the Office of Science was \$4.4 billion. The authorization is \$4.6 billion.

Section 2007. Discovery Science and Engineering Innovation Institutes.

Section 2007 would establish multi-disciplinary institutes centered at National Laboratories to apply fundamental science and engineering discoveries to technological innovations related to the missions of the Department and the global competitiveness of the

United States. Each Institute would be authorized to receive \$10 million in federal funding annually.

Section 2008. PACE Graduate Fellowship Program.

Section 2008 would establish a competitive graduate fellowship program for up to 700 students pursuing doctoral degrees in mission areas of the Department. The section requires that students be selected for the fellowship program through a competitive merit review process (involving written and oral interviews) that will result in a wide distribution of awards throughout the United States. This section would authorize \$93 million over 4 years for these fellowships.

Section 2009. Title IX Compliance.

Section 2009 would require the Department of Energy to conduct compliance reviews of two grant recipients to determine compliance with the provisions of Title IX of the Education Amendments of 1972. Title IX of the Education Amendments of 1972 required government agencies to ensure that female students had equal access to the programs supported by federal grants.

Section 2010. High-Risk, High-Reward Research.

Section 2010 would require the Secretary of Energy to establish a grant program to encourage the conduct of high-risk, high-reward research at the Department of Energy.

Section 2011. Distinguished Scientists Program.

Section 2011 would establish a joint program between universities and national laboratories to support up to 100 distinguished scientists positions. These scientists would hold joint appointments at the labs and their universities, and would promote academic and scientific excellence cooperation between the two institutions. Section 2011 would authorize \$290 million over 4 years for these appointments.

DIVISION C – EDUCATION

Section 3001. Findings.

Section 3001 presents findings that the United States needs to build on and expand the impact of existing education programs that work to ensure a well-educated populace to remain competitive in the global economy.

Section 3002. Definitions.

Section 3002 contains definitions that are used throughout the Education Division.

TITLE I – TEACHER ASSISTANCE.

SUBTITLE A – TEACHERS FOR A COMPETITIVE TOMORROW

Section 3111. Purpose.

Section 3111 would provide that the purpose of this subtitle is to develop and implement undergraduate programs leading to a baccalaureate degree with concurrent teacher certification that provide integrated courses of study in mathematics, science, engineering, or critical foreign languages and teacher education, and master's degree programs in mathematics, science, or critical foreign language education for current teachers to enhance their content knowledge and pedagogical skills.

Section 3112. Definitions.

Section 3112 contains definitions that are used in this subtitle.

Section 3113. Programs for Baccalaureate Degrees in Mathematics, Science, Engineering, or Critical Foreign Languages, with Concurrent Teacher Certification.

Section 3113 would authorize competitive grants for partnerships to develop and implement programs that integrate programs of study for undergraduate students majoring in mathematics, engineering, science or a critical foreign language with teacher education, so that students can obtain baccalaureate degrees with concurrent teacher certification. These partnerships would consist of institutions of higher education, departments of mathematics, engineering, science or critical foreign languages, teacher preparation programs and high-need local educational agencies and their schools.

Section 3114. Programs for Master's Degrees in Mathematics, Science, or Critical Foreign Languages Education.

Section 3114 would authorize competitive grants for partnerships to develop and implement 2- or 3-year part-time master's degree programs in mathematics, science, or critical foreign language education for current teachers to improve their content knowledge and

pedagogical skills. These partnerships would consist of institutions of higher education, departments of mathematics, engineering, science or critical foreign languages, teacher preparation programs and high-need local educational agencies and their schools.

Section 3115. General Provisions.

Section 3115 contains provisions that would be applicable to both the baccalaureate and master's degree programs. Under both programs, grants would be for five years; matching funds would be required; and grant funds could be used only to supplement, not supplant, other Federal or State funds. The Secretary would be required to evaluate the programs and provide an annual report to Congress.

Section 3116. Authorization of Appropriations.

Section 3116 would authorize to be appropriated a total for both programs of \$210,000,000 for fiscal year 2008, and such sums as may be necessary for each of the three succeeding fiscal years, and specify the proportion of the total funding that is to be spent carrying out each of the two programs.

SUBTITLE B – ADVANCED PLACEMENT AND INTERNATIONAL BACCALAUREATE PROGRAMS.

Section 3121. Purpose.

Section 3121 would provide that the purpose of this subtitle is to raise academic achievement through Advanced Placement (AP) and International Baccalaureate (IB) programs by increasing the number of teachers serving high-need schools who are qualified to teach AP or IB courses in mathematics, science, and critical foreign languages; increasing the availability of such courses in high-need schools, including courses that prepare students to enroll and succeed in AP and IB; and increasing the number of students attending high-need schools who take such courses and take and pass the examinations.

Section 3122. Definitions.

Section 3121 contains definitions that are used in this subtitle.

Section 3123. Advanced Placement and International Baccalaureate Programs.

Section 3123 would authorize competitive grants to achieve the purposes of this subtitle and would authorize to be appropriated \$58,000,000 for fiscal year 2008 and such sums as may be necessary for each of the three succeeding fiscal years.

TITLE II – MATH NOW.

Section 3201. Math Now for Elementary School and Middle School Students Program.

Section 3201 would authorize a grant program to improve instruction in mathematics for elementary school and middle school students, and to provide targeted help to students struggling with mathematics, to enable all students to reach or exceed grade-level academic achievement standards. Grants would be awarded to implement mathematics instructional materials and interventions, provide professional development activities, and conduct continuous progress monitoring of students in mathematics. State educational agencies would be awarded grants on a competitive basis to enable them to award grants to eligible local educational agencies. Priority would be given to applications for projects that would implement statewide strategies for improving mathematics instruction and raising the mathematics achievement of students, particularly those in grades 4 through 8. There would be a matching requirement, but the Secretary would have the authority to waive all or part of it in cases of serious hardship. The section would authorize to be appropriated \$146,700,000 for fiscal year 2008, and such sums as may be necessary for each of the 3 succeeding fiscal years.

TITLE III – FOREIGN LANGUAGE PARTNERSHIP PROGRAM.

Section 3301. Findings and Purpose.

Section 3301 presents findings that the United States faces a shortage of skilled professionals with higher levels of proficiency in foreign language and that the ability of students to become proficient can be addressed by starting language learning at a younger age and expanding opportunities for continuous foreign language education from elementary school through postsecondary education. The purpose of this title is to increase significantly both the opportunities to study critical foreign languages programs and the number of students who become proficient in critical foreign languages.

Section 3302. Definitions.

Section 3302 contains definitions that are used in this title.

Section 3303. Program Authorized.

Section 3303 would authorize a competitive grant program to enable institutions of higher education and local educational agencies working in partnership to establish articulated programs of study in critical foreign languages so that students from elementary school through postsecondary education can advance their knowledge successfully and achieve higher levels of proficiency in a critical foreign language.

Section 3304. Authorization of Appropriations.

Section 3304 would authorize to be appropriated \$22,000,000 for fiscal year 2008 and such sums as may be necessary for each of the three succeeding fiscal years.

TITLE IV – ALIGNMENT OF EDUCATION PROGRAMS.

Section 3401. Alignment of Secondary School Graduation Requirements with the Demands of 21st Century Postsecondary Endeavors and Support for P-16 Education Data Systems.

Section 3401 would provide that this title would authorize competitive grants to States to promote better alignment of elementary and secondary education with the knowledge and skills needed to succeed in academic credit-bearing coursework in institutions of higher education, in the 21st century workforce and in the Armed Forces. The title would also authorize competitive grants to support the establishment or improvement of statewide P-16 education longitudinal data systems to assist States in improving the rigor and quality of content knowledge requirements and assessments, ensure that students are prepared to succeed in postsecondary endeavors, and enable States to have valid and reliable information to inform education policy and practice. The section would authorize to be appropriated \$100,000,000 for fiscal year 2008, and such sums as may be necessary for fiscal year 2009.

DIVISION D – NATIONAL SCIENCE FOUNDATION

Section 4001. Authorization of Appropriations.

Subsection (a) would authorize appropriations for the National Science Foundation (NSF) at the following levels for 4 years.

	FY 2008	FY 2009	FY 2010	FY 2011
NSF	\$6.808	\$7.433	\$8.446	\$11.200

All amounts are in \$ billion.

Subsection (b) would require the Director of NSF to create a plan for spending this increased funding within 180 days of enactment, taking into account the priorities established by the Science Summit authorized under Section 101(c) of this Act.

Section 4002. Strengthening of Education and Human Resources Directorate through Equitable Distribution of New Funds.

Section 4002 would provide for annual funding increases for the education and human resources programs of the National Science Foundation to ensure the continued involvement of experts at the National Science Foundation in improving science, technology, engineering and mathematics education at the elementary, secondary and postsecondary level. As appropriations for the National Science Foundation increase, funds for the education and human resources programs would increase by a proportional amount.

Section 4003. Graduate Fellowships and Graduate Traineeships.

Section 4003 would require the Director of NSF to expand both the Graduate Research Fellowship Program and the Integrative Graduate Education and Research Traineeship Program for an additional 1,250 students each over the next 4 years. Within the amounts authorized under Section 4001, this section would authorize appropriations at the following levels in Fiscal Years 2008 through 2011 to support the expansion of the Graduate Research Fellowship Program (GRF) and the Integrative Graduate Education and Research Traineeship Program (IGERT).

	FY 2008	FY 2009	FY 2010	FY 2011
GRF	\$24	\$36	\$48	\$60
IGERT	\$22	\$33	\$44	\$55

All amounts are in \$ million.

Section 4004. Professional Science Master's Degree Programs.

Section 4004 would require the Director of NSF to establish an NSF clearinghouse to share program elements used in professional science master's degree (PSMD) programs and other advanced degree programs related to science, mathematics, technology, and engineering, to help institutions of higher education establish professional science master's programs. The clearinghouse would be established in conjunction with 4-year institutions of higher education, graduate schools, industry, and federal agencies.

Subsection (b) would require the Director to award grants to 4-year institutions of higher education to facilitate the institutions' creation or improvement of professional science master's degrees programs. The program would make awards to a maximum of 200 4-year institutions of higher institutions for a 3 year period. Any grant renewals would be for a maximum of 2 additional years. The Director would be required to give preference in making awards to 4-year institutions of higher education seeking federal funding to support pilot professional science master's degree programs to applicants that secure more than 2/3 of their funding for such professional science masters degree programs from sources other than the Federal Government.

Within the amounts authorized under Section 4001, Subsection (d) would authorize appropriations at the following levels in Fiscal Years 2008 through 2011 to carry out this section.

	FY 2008	FY 2009	FY 2010	FY 2011
PSMD	\$15	\$18	\$20	\$20

All amounts are in \$ million.

Section 4005. Increased Support for Science Education through the National Science Foundation.

Within the amounts authorized under Section 4001, Section 4005 would authorize appropriations for the science, mathematics, engineering, and technology talent program established in section 8(7) of the National Science Foundation Act of 2002 (P.L. 107-368) at the following levels in Fiscal Years 2008 through 2011.

	FY 2008	FY 2009	FY 2010	FY 2011
Tech Talent	\$40	\$45	\$50	\$55

All amounts are in \$ million.

Section 4006. Meeting Critical National Science Needs.

Section 4006, subsection (a) would require the Director of NSF to include consideration of the degree to which NSF awards and research activities assist in meeting critical national needs in innovation, competitiveness, the physical and natural sciences, technology, engineering, and mathematics.

Subsection (b) would require the Director of NSF to give priority in the selection of awards and the allocation of NSF resources under the Research and Related Activities budgetary account to those projects that can be expected to make contributions in physical and natural sciences, technology, engineering, and mathematics, or which can be expected to enhance competitiveness or innovation in the United States.

Subsection (c) would clarify that the priority consideration required by Section 4006 does not restrict or bias the grant selection process against other areas of research consistent with the mandate of the Foundation.

Section 4007. Reaffirmation of the Merit-Review Process of the National Science Foundation.

Section 4007 would clarify that nothing in this Act shall be interpreted to require or recommend that NSF change its (1) merit-review system or (2) peer review process. These processes should continue to be used in determining what grants NSF will fund.

Section 4008. Experimental Program to Stimulate Competitive Research.

Section 4008 would authorize the NSF's Experimental Program to Stimulate Competitive Research (EPSCoR) at \$125 million for Fiscal Year 2008, of the funds authorized in Section 4001, increasing each year from FY 2009 to FY 2011 by the same percentage by which NSF's overall funding increases.

Section 4009. Encouraging Participation.

Subsection (a) would require the Director of NSF to establish a program to provide mentors for women who are interested in careers in science, technology, engineering, and mathematics by pairing such women with mentors who are working in industry.

Subsection (b) would require the Director of NSF to establish a program to provide grants to community colleges to provide apprenticeships and other appropriate training to allow women to enter higher-paying technical jobs in fields related to science, technology, engineering, or mathematics.

Subsections (c) and (d) establish the requirements for application and the evaluation criteria of this program.

Section 4010. Cyberinfrastructure.

Section 4010 would require the Director of NSF to develop and publish a plan that describes the current status of broadband access for scientific research purposes in EPSCoR-eligible jurisdictions and outlines actions that could be taken to ensure that broadband connections are available to enable participation in NSF programs that rely heavily on high-speed networking and collaborations across institutions and regions.

Section 4011. Federal Information and Communications Technology Research.

Section 4011 would require the Director of NSF to establish a grant program for basic research in advanced information and communications technologies focused on enhancing or facilitating the availability and affordability of advanced communications services to all Americans. In developing this program, the Director shall consult with a Federal Advanced Information and Communications Technology Research Board composed of individuals with expertise in information and communications technologies, including representatives from the National Telecommunications and Information Administration, the Federal Communications Commission, the NIST, the Department of Defense, and representatives from industry and educational institutions. Within the amounts authorized by Section 4001, Section 4011 would authorize appropriations to carry out this section at the following levels in Fiscal Years 2008 through 2011.

	FY 2008	FY 2009	FY 2010	FY 2011
Telecommunications Basic Research	\$45	\$50	\$55	\$60

All amounts are in \$ million.

Section 4012. Robert Noyce Teacher Scholarship Program.

Section 4012 would increase support for the Robert Noyce Scholarship Program to recruit and train individuals to become math and science teachers in high need local educational agencies. It would increase the undergraduate scholarship amount from \$7,500 to \$10,000 per year for a maximum of two years (in exchange for teaching service) and add a summer internship component for freshmen and sophomores interested in the program. Provisions that require repayment of scholarship or stipend by recipients who do not complete their service requirement would be amended to require repayment through a federal student loan with terms consistent with provisions in parts B and D of title IV of the Higher Education Act. Within the amounts authorized by Section 4001, Section 4012 would authorize appropriations to carry out this section at the following levels in Fiscal Years 2008 through 2011.

	FY 2008	FY 2009	FY 2010	FY 2011
Noyce Program	\$117	\$130	\$148	\$200

All amounts are in \$ million.

Section 4013. Sense of the Senate Regarding the Mathematics and Science Partnership Programs of the Department of Education and The National Science Foundation.

Section 4013 would provide a sense of the Senate that mathematics and science partnership programs operated by the Department of Education and the National Science Foundation are complementary not duplicative, and the two agencies should have ongoing collaboration to ensure the two components continue to work in concert.

Section 4014. National Science Foundation Teacher Institutes for the 21st Century.

Section 4014 would specifically authorize and increase support for the Teacher Institutes for the 21st Century summer institute program at the National Science Foundation to provide cutting-edge professional development for elementary and secondary school math and science teachers who teach in high need schools. It would provide for follow-up training and support during the academic year for participating teachers. Within the amounts authorized by Section 4001, Section 4014 would authorize appropriations to carry out this section at the following levels in Fiscal Years 2008 through 2011.

	FY 2008	FY 2009	FY 2010	FY 2011
Teacher Institutes	\$84	\$94	\$106	\$140

All amounts are in \$ million.