THE DIRECTOR

August 21, 2006

M-06-24

MEMORANDUM TO ACADEMIC COMPETITIVENESS COUNCIL AGENCY HEADS

FROM: ROB PORTMAN

SUBJECT: 2008 Planning Guidance for Math and Science Education Programs

The Deficit Reduction Act of 2005 established the Academic Competitiveness Council (ACC), chaired by the Secretary of Education, to review all Federal programs with a focus on math and science education and report its findings to Congress by February 2007. The Council's goal is to increase American competitiveness in the global economy by ensuring the greatest return from the government's investment in the math and science education programs. Because the ACC's report is due to Congress at the time of the release of the President's 2008 Budget, the Secretary and I are asking for your cooperation to ensure the math and science education programs proposed in the President's Budget reflect the Council's work.

On July 19, 2006, the Secretary of Education convened a meeting of agency heads and White House principals to discuss the progress of the Council and proposed next steps. This progress is the result of the active participation of program staff and policy officials in your agency since April, 2006. To date, the agency working groups have:

- Identified 129 programs specifically focused on math and science education or on supporting the education and research activities of math and science students and post-doctoral researchers, with total funding of over $3.4 billion in 2006.

- Grouped programs into categories, based on their purposes and goals, to facilitate analysis and coordination. The three major categories are K-12 Education, Postsecondary Education, and Outreach and Informal Education.

- Developed common goals covering all programs, and completed a set of common, outcome-based performance metrics for K-12 Education. The metrics for the Postsecondary and Outreach and Informal Education groups are nearing completion. These metrics will be the foundation for assessing program effectiveness in the future.

- Reviewed which programs currently have methods and data to demonstrate results; and which programs need to collect data for later evaluation.

Further work is needed to address the statutory requirement that the final report: (1) determine program effectiveness; (2) identify overlap and duplication; and (3) recommend ways to integrate and coordinate programs.

The work of the Council will help reinforce rigorous assessment in science and math education programs so that the overall impact of the Federal investment is measurable and more positive. To ensure that these concepts are reflected in the 2008 Budget and your agency's future plans, please address the following considerations in your agency budget submission for programs in the ACC inventory and other programs that focus on math or science education (for your reference, attached is a full inventory of ACC programs with program descriptions):

- *Potential Duplication and Overlap:* The ACC inventory has identified 35 programs supporting K-12 education, 87 supporting Postsecondary Education, and 7 supporting Outreach and Informal Education. Some overlap among these programs may be warranted if they effectively serve unique needs. Your agency's 2008 Budget submission should demonstrate that your agency has analyzed the ACC inventory to consider potential overlap across programs with similar purposes and goals.

- *Integration and Coordination:* Your agency submission should indicate what steps the agency is taking to improve coordination and integration with other Federal programs serving related purposes in order to achieve maximum benefit from Federal investments.

- *Program Effectiveness:* Your agency submission should indicate what methods of assessment your agency uses to determine program effectiveness. The ACC has identified certain methods that are most rigorous for assessing program or project effectiveness. While randomized controlled trials are generally the best way to determine program impact, this method is not always appropriate for all programs, and some other methods have also been found to be rigorous.

ACC Inventory Update: In addition to the information we request to be provided in your budget submission, OMB will be sending your agency ACC contacts a means of updating the existing inventory to address program effectiveness. The ACC inventory update will require agencies to report on the following by September 15th:

- The portion of total project funding assessed by rigorous evaluation methods.

- Which programs have rigorously demonstrated having positive impacts on program outcomes or, for programs that employ rigorous evaluation methods only at the project level, the funding share associated with projects that have rigorously demonstrated having positive impacts on their outcomes.

- Performance metrics and evaluation strategies the program will use to assess program effectiveness in 2007 and 2008, and how these differ from those previously in place. One of these metrics should be mapped to the common performance metrics designated by ACC working groups.

- Changes in program design or operations that will be implemented in order to improve program impact.

Your agency should expect OMB to further discuss these issues with you during the 2008 Budget process and to consider this information when making 2008 Budget decisions. Thank you for your cooperation on this important aspect of the Administration's strategy for enhancing the nation's competitiveness.

Attachment

Program name	Program Description

Agency: **Department of Agriculture**

Subagency: Cooperative State Research, Education, and Extension Service

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1890 Facilities Grant Program

This formula-funded program awards grants through a merit review process. Awards are based on review of proposals by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations. Eligible applicants are Historically Black Colleges and Universities (HBCUs), but limited specifically to those institutions designated as 1890 Land-Grant Institutions, which means those institutions eligible to receive funds under the Act of August 30, 1890, (26 Stat. 417-419, as amended; 7 U.S.C. 321-326 and 328), including Tuskegee University and West Virginia State University. Authority for this program is contained in section 1447 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977, as amended (Pub. L. No. 95-113). Grants are made for the acquisition and improvement of agricultural and food sciences facilities and equipment, including libraries.

1890 Institution Teaching and Research Capacity Building Grants Program

This competitive program awards grants through a peer review process. Awards are based on review of proposals by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations. Eligible applicants are Historically Black Colleges and Universities (HBCUs), but limited specifically to those institutions designated as 1890 Land-Grant Institutions, which means those institutions eligible to receive funds under the Act of August 30, 1890, (26 Stat. 417-419, as amended; 7 U.S.C. 321-326 and 328), including Tuskegee University and West Virginia State University. Authority for this program is contained in section 1417 (b)(4) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977, as amended (7 U.S.C. 3152 (b)(4)).

Competitive grants are made for designing and implementing programs that build institutional teaching and research capacity in the food and agricultural sciences, including: basic, applied, and developmental research; extension and teaching activities in food and fiber; agriculture; renewable natural resources; forestry; physical and social sciences; rural economic, community, or business development; and other related disciplines.

Agriculture in the Classroom (AITC)

AITC is a nationally-coordinated, but locally executed, science education program. The program is carried out in each state, according to state needs and interests, by individuals representing farm organizations, agribusiness, education and government. USDA supports the state groups by: helping to develop Ag in the Classroom programs, acting as a central clearinghouse for materials and information, encouraging USDA agencies to assist in the state programs, and coordinating with national organizations to promote the goal of an increased awareness of agriculture among the nation's students.

The AITC program operates independently in each state using various funding mechanisms, including some Federal support. The National Office provides coordination and funding to State projects, sponsors the National Conference, provides web-based resources, and staffs the National Consortium of AITC State Contacts. AITC serves nearly 5 million students and 60,000 teachers annually through workshops, conferences, field trips, farm tours, and other educational activities. Animal sciences, natural resources, environmental issues, nutrition, and agricultural careers are the subjects taught most often.

Alaska Native- and Native Hawaiian-Serving Institutions Education Grants Program

This program awards grants through a process of merit review to eligible institutions or to a consortia of eligible institutions. Appropriated funds are divided equally between the States of Alaska and Hawaii for postsecondary institutions to carry out education, applied research, and related community development programs in the food and agricultural sciences.

Program name	Program Description
Federally-Recognized Tribes Extension Program	This program supports non-formal education (Extension) and outreach activities. It is a competitive grants program that awards grants through a merit review process by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations. Eligible institutions include colleges and universities where such institutions are designated as 1862 Land-Grant Institutions under the authority of the Act of October 10, 1862, as amended (16 U.S.C. 582a et seq.). USDA funds are provided to the Land-Grant institution in the State in which the Reservation or Tribal jurisdiction is located, providing access to the university's knowledge base and structure to deliver needed information and programs. This program is authorized under Section 3(d) of the Act of May 8, 1914, Smith-Lever Act, ch. 79, 38 Stat. 372, 7 U.S.C. 341 et seq.
Food and Agricultural Sciences National Needs Graduate and Postdoctoral Fellowships Grants Program	This is a competitive graduate traineeship program that awards grants to 4-year colleges and universities through a peer review process. Funds provide for a limited number of graduate fellowships and international dissertation research opportunities in support of students in the food and agricultural sciences. Additional postdoctoral training may also be provided for Fellows who have completed their doctoral degrees. Eligible applicants include U.S. nonprofit colleges and universities, both public and private. Awards are based on review of proposals by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations. Grants are not made directly to students, but rather to institutions, which select individuals for fellowship awards.
Higher Education Challenge Grants Program	This is a competitive grants program that awards teaching enhancement grants to U.S. public or private, nonprofit colleges and universities through a review process by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations. Eligible applicants include U.S. public or private, nonprofit colleges and universities offering a baccalaureate or first professional degree in at least one discipline or area of the food and agricultural sciences. Educational institutions receiving grants are required to match USDA funds on a dollar-for-dollar basis from non-Federal sources.
Higher Education Multicultural Scholars Program	This competitive program awards grants to 4-year colleges and universities through a peer review process. Funds provide for a limited number of undergraduate scholarships and experiential learning opportunities in support of students in the food and agricultural sciences. Eligible applicants include: U.S. public or private, nonprofit colleges and universities. Educational institutions receiving grants are required to match USDA funds with 25% from non-Federal sources. Awards are based on review of proposals by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations.
Hispanic-Serving Institutions Education Grants Program	This competitive grants program is intended to promote and strengthen the ability of Hispanic-Serving Institutions (HSIs) to carry out higher education programs in the food and agricultural sciences. Accredited 2-year and 4-year public or nonprofit HSIs are eligible to apply for awards. Projects involve individual institutions, consortia of HSIs, or cooperative initiatives between an HSI and two or more other entities (including educational institutions, units of government, or private sector corporations). Awards are based on review of proposals by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations.
International Science and Education Competitive Grants Program	This competitive program awards grants through a peer review process. Awards are based on review of proposals by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations. Eligible applicants include public and private, nonprofit colleges and universities offering a program of study at the bachelors or higher degree level. The program supports innovative campus-based activities that enhance the capabilities of American colleges and universities to conduct international collaborative teaching, research, and extension in agriculture and related fields.

Program name	Program Description
Resident Instruction Grants for Institutions of Higher Education in Insular Areas	This is a competitive grants program that awards teaching enhancement grants to public or private nonprofit colleges and universities located in Insular Areas, and to consortia of such eligible institutions. Applications are evaluated through a merit review process by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations. Eligible applicants must offer at least a 2-year program of study with a demonstrable capacity to conduct teaching and extension activities in the food and agricultural sciences, and must be located in an Insular Area. Insular Areas are defined by law as: (1) the Commonwealth of Puerto Rico, (2) Guam, (3) American Samoa, (4) the Commonwealth of the Northern Mariana Islands, (5) the Federated States of Micronesia, (6) the Republic of the Marshall Islands, (7) the Republic of Palau, and (8) the Virgin Islands of the United States.
Secondary and Two-Year Postsecondary Agriculture Education Challenge Grants Program	This competitive program awards grants through a peer review process. Eligible applicants include: independent school districts, public secondary schools (limited to grades 9-12), and public or private, nonprofit junior or community colleges. Educational institutions receiving grants are required to match USDA funds on a dollar-for-dollar basis from non-Federal sources. Awards are based on review of proposals by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations.
Tribal Colleges Education Equity Grants Program	This is a non-competitive grants program for the 33 Tribal Colleges and Universities designated as 1994 Land-Grant Institutions under the authority of the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note), and as amended by the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7601 note).
Tribal Colleges Endowment Fund	This is a non-competitive grants program for the 33 Tribal Colleges and Universities designated as 1994 Land-Grant Institutions under the authority of the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note), and as amended by the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7601 note).
Tribal Colleges Extension Services Program	This program supports non-formal education (Extension) and outreach activities. This is a competitive grants program that awards grants through a review process by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations. Eligible institutions are the 33 Tribal Colleges and Universities designated as 1994 Land-Grant Institutions under the authority of the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note), and as amended by the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7601 note). Grant applications submitted under this program must certify that the activities to be conducted will be performed under a cooperative agreement with at least one 1862 or 1890 Land-Grant college or university (to help ensure institutional capacity building for the Tribal College through interaction with experienced peers).
Tribal Colleges Research Grants Program	This is a competitive grants program that awards research enhancement grants through a review process by panels of experts from academic institutions; Federal, state, and local governments; and private sector organizations. Eligible institutions are the 33 Tribal Colleges and Universities designated as 1994 Land-Grant Institutions under the authority of the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note), and as amended by the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7601 note). Grant applications submitted under this program must certify that the research to be conducted will be performed under a cooperative agreement with at least one 1862 or 1890 Land-Grant college or university (to help ensure institutional capacity building for the Tribal College through interaction with experienced peers).

Subagency: National Agriculture Statistics Service

Agricultural Research Service (ARS) Research Associate Program	This program, under a special appointing authority granted by the Office of Personnel Management, hired postdocs into temporary positions to perform research while receiving advanced training through association with ARS's permanent research scientist staff.

Program name	Program Description
Agricultural Research Service (ARS) Veterinary Medical Doctoral Program	This is a competitive training program in which persons holding Doctorates in Veternary Medicine compete for training targeted toward obtaining a Ph.D. in Veternary Medicine. Persons selected for the program are appointed as Student Career Experience Program (SCEP) students, and upon graduation are converted to a full-time permanent position.
BASU Graduate Scholarship Program	This program, established by USDA pursuant to the Basu Settlement Agreement, provides funding for graduate school as preparation for a career in government service.
Department of Agriculture Career Intern Program	This program is designed to assist in recruiting and attracting exceptional candidates with varied experiences and academic disciplines into a variety of trainee positions in the General Schedule. Throughout the internship, employees participate in formal training, are assigned a mentor, and receive job assignments to develop appropriate competencies.
USDA 1890 National Scholars Program	This program offers scholarships to U.S. citizens who are seeking a bachelor's degree at one of the eighteen 1890 Historically Black Land-Grant Institutions in agriculture, food, natural resource sciences or other related disciplines. This program provides full tuition, employment, employee benefits, fees, books, use of a personal computer and software while on scholarship, and room and board each year for 4 years.
USDA Hispanic Scholars Program	This program offers scholarships to U.S. citizens who are seeking a bachelors degree at Hispanic-Serving Institutions. The program also provides on-the-job experiences for students.
USDA Public Service Leaders Scholarship Program	This program is designed to promote public service and to create access to higher education for undergraduate and graduate students by providing financial support and on-the-job experiences for students.
Washington Internship for Native Students (WINS)	WINS is a contracted internship program for Native American students to gain on-the-job experience by participating in issues of public policy in Washington, D.C.

Agency: **Department of Commerce**

Subagency: National Institute of Standards and Technology

Department of Homeland Security (DHS)/NIST National Research Council (NRC) Postdoctoral Research Associateship Program	This program, administered by the NRC, provides two-year awards for postdoctoral researchers for research topics considered of importance to DHS and to DHS-Affilitated Venues (e.g. NIST). This program is funded by DHS.
National Institutes of Health(NIH)/NIST National Research Council (NRC) Joint Postdoctoral Research Associateships Program	This program provides two-year awards for postdoctoral researchers emphasizing interdisciplinary research at the interface of the biological and physical sciences. Postdoctoral work is done both at NIST and at NIH, and NIH and NIST jointly provide the funds for this program, furnishing all necessary support services, facilities, and equipment for the approved research program of each Associate. The program is administered by NRC, and is jointly funded by NIH and NIST.
NIST National Research Council (NRC) Postdoctoral Research Associateships Program	This program provides two-year awards for postdoctoral researchers in STEM areas working with scientists at NIST facilities through the National Research Council's Postdoctoral Research Program.The program is partially administered through the NRC.
Professional Research Experience Program (PREP)	This program awards fellowships to undergraduate students, graduate student, and postdoctoral fellows to work on the NIST-Boulder campus and gain valuable laboratory experience and financial assistance.
Summer Undergraduate Research Fellowship (SURF) Program	SURF is a 12-week summer honor-academy program, which awards fellowships to undergraduate students interested in pursuing graduate degrees in science and engineering, or related areas.
The Intelligence Community (IC) Postdoctoral Research Fellowship Program at NIST	This program supports first- and second-year Postdoctoral Fellows in research topics deemed critical to effective intelligence capabilities. Senior scientists at affiliated agencies, such as NIST, identify such research topics, and technical proposals are submitted to be reviewed by the IC. Topic proposals are reviewed by appropriate IC staff, and successful proposals are accepted for funding postdoctoral fellows on the research project to be carried out in conjunction with a senior scientist at the technical agency (NIST). The program is funded by the Directorate of Central Intelligence.

Subagency: National Oceanic and Atmospheric Administration

Bay Watershed Education and Training Program (B-WET)	This program offers competitive grants aimed at providing a meaningful watershed experience for K-12 students in three locations - Chesapeake Bay, California, and Hawaii.
Chesapeake Bay Interpretive Buoys	This program develops and deploys interpretive buoys in the Chesapeake Bay, and provides opportunities for distance learning, real time data, curricular materials, and interaction and connection between classrooms.
Educational Partnership Program with Minority Serving Institutions	The Educational Partnership Program (EPP) is designed to provide financial assistance, through competitive processes, to Minority Serving Institutions (MSI) that support education and training in NOAA related sciences. EPP's goal is to enhance NOAA's capacity to increase environmental literacy by establishing partnerships with MSIs, the private sector, and other Federal, State, Tribal, and local agencies. There are 4 program components: Cooperative Science Centers; Environmental Entrepreneurship Program; Graduate Sciences Program; and, Undergraduate Scholarship Program.

Program name	Program Description
Ernest F. Hollings Scholarship Program	This program is designed to provide financial assistance through undergraduate scholarships for students matriculating in STEM and NOAA related fields. The goal is to increase the number of students graduating in academic fields that support NOAA's mission.
Gulf Coast Explorium	This program is focused on developing a Gulf Coast informal education program.
Hawaii Humpback Whale Education Program	This program is developing a K-12 humpback whale education program for the State of Hawaii.
JASON Education and Outreach	This program supports the development of marine science curricula and content for after-school programs that highlight NOAA sciences.
Nancy Foster Scholarship Program	This graduate research scholarship program is designed to recognize outstanding academic accomplishments in oceanography, marine biology, and maritime archeology, particularly by women and members of minority groups who would not be able to pursue an advanced degree due to financial constraints.
Narragansett Bay Marine Education	This program supports competitive grants aimed at providing a meaningful watershed experience for K-12 students in the Narragansett Bay area.
NOAA Education Initiative	This program supports formal and informal education opportunities related to NOAA's mission. The majority of funds are awarded through completive mechanisms.

Agency: **Department of Defense**

Subagency: Department of the Air Force

| Awards to Stimulate and Support Undergraduate Research Experiences (ASSURE) | The Department of Defense (DoD) annually funds approximately 20 grants to undergraduate summer research sites through this program. The ASSURE program is executed collaboratively with the National Science Foundation (NSF) through its Research Experiences for Undergraduates (REU) Sites program. ASSURE sites are chosen based on independent proposals to initiate and conduct undergraduate research participation projects for about 8-12 students in DoD-relevant areas. ASSURE site projects may be based in a single discipline or academic department or be based on interdisciplinary or multi-department research opportunities. |

| National Defense Science and Engineering Graduate (NDSEG) Fellowship | The NDSEG Program is a joint program of the United States Army, Navy and Air Force within the University Research Initiative (URI), designed to increase the number of U.S. citizens trained in disciplines of science and engineering important to defense goals. DoD awards approximately 100-150 new three-year graduate fellowships each year to individuals for study and research leading to doctoral degrees in, or closely related to, the disciplines of aeronautical and astronautical engineering; biosciences; chemical engineering; chemistry; cognitive, neural, and behavioral sciences; electrical engineering; geosciences; civil engineering; computer and computational sciences; materials science and engineering; mathematics; mechanical engineering; naval architecture and ocean engineering; oceanography; and physics. |

| University Nanosatellite Program | This program is a continuing effort which provides undergraduates and graduates with hands-on experience in design, fabrication, and testing of spacecraft. |

Subagency: Department of the Army

| Gains in the Education of Mathematics and Science (GEMS) | The "Gains in the Education of Mathematics and Science" (GEMS) seeks to engage Washington, DC, junior high and high schools in a one-, two-, or four-week summer program. These students spend the time working in a DoD or University lab performing lab experiments under the direct supervision of a college-aged near-peer mentor. |

Three GEMS Levels for the varying levels of previous science experience:
GEMS 1
Simple biology, chemistry and physics experiments, interactive lectures on the, caring for insects, snakes and other creatures, explorations in engineering, etc. all lead to an increased interest in science and the overall process of learning. These students enjoy activities that are both educational and fun.

GEMS 2
The experiments are more complex than in GEMS 1 and build on techniques previously introduced. Students study toxicity in neuronal cultures and possible neuroprotection by various agents.

GEMS 3
This group is offered a 4-week internship to learn advanced techniques, such as high-throughput cloning and gene analysis. Students who have shown significant initiative and have succeeded in previous years of the GEMS program as well as selected students from the SEAP applicant pool are offered this intensive course. Participants are required to complete a five-page research paper and a poster detailing their summer work.

Program name	Program Description
High School Science and Mathematics Faculty Program (HSSMFP)	HSSMFP provides opportunities for secondary school teachers to work directly with Army scientists or engineers on their research programs at Army laboratories, either during summer break or between terms through the school year.
International Science and Engineering Fair (ISEF)	The Intel International Science and Engineering Fair (Intel ISEF) is the world's largest pre-college celebration of science. Held annually in May, the Intel ISEF brings together over 1,400 students from more than 40 nations to compete for scholarships, tuition grants, internships, scientific field trips and the grand prize: a $50,000 college scholarship. Army personnel judge student science research projects and present awards at regional, state and international competitions.
National Science Center (NSC)	The National Science Center is a unique public-private partnership between the U.S. Army and a not-for-profit corporation, the National Science Center Inc. [While no funding is exchanged, the U.S. Army and the NSC promote one another science programs to the public.] The NSC was created under Congressional authority via Public Law 99-145 in 1985 and further amended by the 1996 Defense Authorization Act. The mission of the NSC is to stimulate and increase interest in math, science, and technology by our nation's elementary, middle and high school students. The NSC carries out this mission through the design, development, and delivery of a series of educational outreach programs ranging from mobile discovery centers that travel to schools across the country to distance learning programs that are delivered live to classrooms in 26 different states.

Subagency: National Security Agency

Program name	Program Description
Cooperative Education Program	This is a rotational program, providing work experiences during alternating semester of full-time work and full-time study from entry into the program until graduation. Program requires a minimum of 52 weeks of co-op work experience prior to graduation. Currently includes computer science, computer/electrical engineering, and accounting majors.
Director's Summer Program (DSP)	The DSP program is the National Security Agency's premier outreach to the nation's most outstanding undergraduate mathematics majors. Each summer we invite about two dozen exceptional students to collaborate jointly with NSA mathematicians on problems critical to the intelligence and information assurance missions of the agency.
Gifted and Talented Program (G&T)	This program provides summer work opportunities for high school juniors and seniors interested in techical careers. Targets students with interests in computer science, electrical/computer engineering, and math. Participants assigned to mission organizations and provided mentors. Program being revised for FY07.
Graduate Mathematics Program (GMP)	This program provides an opportunity for exceptional U.S. mathematics graduate students to work directly with NSA mathematicians on mission-critical problems.
Graduate Training Program (GTP)	This is a Congressionally initiated scholarship program which provides employment, scholarship and other expenses in return for post-graduation service obligation. Participants earn master's degrees in such areas as computer science, electrical/computer engineering, systems engineering, or information operations at either the Naval Postgraduate School or the Air Force Institute of Technology.
Historically Black Colleges and Universities and Minority Institutions Program	This program develops progressive partnerships with Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs), Hispanic Serving Institutions (HSIs) and other minority institutions which will assist these Institutions of Higher Education (IHEs) in capitalizing on opportunities to compete for and receive federal funding to support infrastructure upgrades, unclassified research in various areas of technology and targeted areas of outreach to support the development of skills in the STEM activities during the early educational process. Through the partnerships, NSA's HBCU/MI Program works with the IHEs to enhance their ability to provide quality education for their minority students.

Program name	Program Description
Mathematical Sciences Program	The MSP is a competitive grants program aimed at supporting high quality research in the mathematical sciences at the college/university level. The MSP only supports research in subfields of mathematics that are of particular relevance to NSA's mission: Algebra, Number Theory, Discrete Mathematics, Probability, and Statistics.
Mathematics Education Partnership Program (MEPP)	MEPP is a National Security Agency outreach program to promote science, technology, engineering and mathematics (STEM) at non-profit educational institutions (k-12). Outreach activities include: Mathematics Speakers Bureau; NSA/School Partnerships; Science Fair and Math Competition Judges; Excess Equipment Program; Math and Related Sciences Camps (MARS); Summer Institutes for Mathematics Teachers (SIMTs); Project TEAM Grants; and, Mathematical Sciences Grant Program.
Mathematics Summer Employment Program (MSEP)	This program is open to students who are U.S. citizens majoring in mathematics. The intense 12-week program gives talented U.S. undergraduate math students the chance to put their problem-solving skills to the test and receive valuable work experience at the same time. Students participating in the program have the opportunity to learn and develop cryptomathematical theory and to apply the theory to operational problems. MSEP is geared towards students following their junior year who are majoring in mathematics.
National Information Assurance Education & Training Program (NIETP)	Defense-In-Depth addresses three critical components: Technology, Operations and People. These components are countermeasures intended to reduce vulnerabilities in our National Information Infrastructure.
National Physical Science Consortium Participant	The National Security Agency has been an active member of the National Physical Science Consortium (NPSC) since 1990. The NPSC is an organization of leading universities, national laboaratories and corporations whose goal is to increase the number of qualified U.S. citizens at the doctoral and post-doctoral levels in the Physical Science disciplines and Engineering fields. The NPSC offers up to a six-year fellowship to applicants seeking doctoral degrees in Mathematics, Computer Science, Physics, Engineering and related fields. The program is open to all U.S. citizens with emphasis on increasing the number of qualified women and historically underrepresented minorities who are seeking PhDs in the Physical Sciences.
Seasonal Intern Program/Information Assurance	This is a 12 week program open to select college upperclassman and graduate students who are concentrating their studies in the discipline of Information Assurance. The program offers spring, summer and fall participation.
Stokes Educational Scholarship Program (Stokes)	The Stokes Program (formerly known as the Undergraduate Training Program) was proposed and introduced into legislation in 1986. Its purpose is to facilitate the recruitment of individuals, particularly minority high school students, who have demonstrated skills critical to NSA: majoring in Foreign Language (Arabic, Chinese, Farsi, Korean) Computer Science, Mathematics, Computer/Electrical Engineering, International Affairs/Relations, International Finance, or other Intelligence Analysis subjects. Participants have a service obligation to NSA upon completion of bachelors degree.

Subagency: Naval Postgraduate School

Science, Mathematics and Research for Transformation (SMART)	SMART is a DoD-wide scholarship/fellowship program open to US Citizens that are competitively selected to pursue undergraduate and graduate degrees in disciplines considered to be critical to the national defense mission of the DoD.

Program name	Program Description

Subagency: Office of the Assistant Secretary of Defense for Reserve Affairs

DoD STARBASE Program

The DoD STARBASE Program is authorized under 10 USC 2193b. The program design emphasizes experiential "hands-on" applications, student interaction, and problem solving experiments. Students are transported to the military base for DoD STARBASE instruction that covers 13 core curriculum topics. The program provides 20 or 25 hours of classroom instruction which focuses on students learning facts, applying the facts in team inquiry, and then adding reasoning process to build a depth of understanding of applied science, math, and technology. In addition to written materials, facilities, simulators, and trainers are made available to the students. Also, teachers from the public schools attend the program with their students and use STARBASE-generated material to reinforce learning during regular school days. Although authorized to serve K-12 students, the program primarily works with the fifth grade students that are historically under-represented in math, science, and technology; living in inner cities or rural locations; disabled; socio-economically disadvantaged; and low in academic performance. The program is based on partnerships between military installations, school districts, and communities to ensure the instruction provided can integrate with state and local science and math objectives.

Subagency: Office of the Director, Defense Research & Engineering/Deputy Under Secretary of Defense (ODDR&E/DUSD(LABS))

DoD Infrastructure Program for Hispanic-Serving Institutions (HSIs)

The DoD program for Hispanic Serving Institutions (HSIs) began in 2001 as a Congressional Earmark under the larger DoD Infrastructure Support Program for HBCU/MI with similar goals. Eligibility is limited to institutions certified as HSIs by the Office for Civil Rights (OCR), U.S. Department of Education, based upon enrollment data compiled by OCR/ED. HSI grants are awarded competitively. They provide instrumentation/equipment for education and/or research as well as multi-year basic research and student support.

DoD Infrastructure Program for Tribal Colleges and Universities (TCU)

The DoD program for Tribal Colleges and Universities began in 2001 as a Congressional Earmark under the larger DoD Infrastructure Support Program for HBCU/MI with similar goals. Eligibility is limited to institutions certified as TCU by the Office for Civil Rights (OCR), U.S. Department of Education, based upon enrollment data compiled by OCR/ED. TCU grants, which are awarded competitively, provide for instrumentation and equipment for science, mathematics, and/or engineering education.

DoD Infrastructure Support Program for Historically Black Colleges and Universities and Minority Institutions (HBCU/MI)

The DoD Infrastructure Support Program for HBCU/MI was initiated under the Defense Authorization Act of 1991 (P.L. 101-510, Sec. 832 (10 U.S.C. 2323 (3)). The legislation prescribed various initiatives designed to enhance capabilities at HBCU/MI in scientific disciplines critical to national security and the Department of Defense's S&T Mission, and to increase the number of graduates, including underrepresented minority graduates, in the fields of science, engineering, and mathematics. Eligibility is limited to HBCUs and minority institutions certified as such by the Office for Civil Rights (OCR), U.S. Department of Education, based upon enrollment data compiled by OCR/ED. Grants are awarded competitively. Examples of funding opportunities include: instrumentation for education and/or research; centers for education and centers for research; collaborative university/Army/industry education and research; workshops(technical assistance); undergraduate scholarships; graduate fellowships, and faculty research fellowships.

Program name	Program Description
Dr. John Hopps Defense Research Scholars Program	This research scholars program is designed to advance core federal missions and DoD goals to increase the participation of minority students in emerging science and technology fields. The program identifies top tier high school students and places them in a rigorous program in the Division of Science and Mathematics that includes one-on-one mentoring, a summer educational and research program, and challenging internships at top research institutions, with the goal of placing them in doctoral programs on a track to work in the national laboratories.
	Overall, this research scholars program is designed to extend Dr. Hopps' legacy into the 21st Century by providing meaningful opportunities to young African American researchers, and thereby increasing the number of minority scientists entering into advanced research positions. The funds will provide the needed infrastructure and increased research capacity to establish student mentor relationships within active research laboratories both in Atlanta and around the country, which will further the stated Federal and Department of Defense goals of encouraging minority participation in the sciences and advanced research. The ultimate goal of the program is to engender doctorate track student researchers focused on research careers leading to the national laboratories, and further aiding federal research and innovation missions, as is consistent with the Administration's recently announced Innovation Initiative, and the Science, Technology, Engineering and Mathematics (STEM) education initiative.
Thurgood Marshall Scholarship Fund (TMSF): Defense Leadership and Technology Initiative	TMSF will build a partnership with DoD that will provide leadership training and development by working directly with member school faculty and staff to improve the recruitment of students towards defense-related careers and service. TMSF will provide scholarships, fellowships, internships, or other academic opportunities to their students in defense-related careers. Since 1999, TMSF has trained over 700 students and nearly 800 executives, faculty and staff.

Subagency: Uniformed Services University of the Health Sciences (USUHS)

Uniformed Services University of the Health Sciences (USUHS)	USUHS is the Nation's Federal health sciences university and is committed to excellence in military medicine and public health during peace and war. It provides the Nation with health professionals dedicated to career service in the Department of Defense and the United States Public Health Service and with scientists who serve the common good.

Agency: **Department of Education**

Subagency: Federal Student Aid

Science and Mathematics Access to Retain Talent (SMART) Grants

A National SMART Grant will provide up to $4,000 for each of the third and fourth years of undergraduate study to full-time students who are eligible for a Federal Pell Grant and who are majoring in physical, life, or computer sciences, mathematics, technology, engineering, or a foreign language determined to be critical to national security. Students must also have at least a 3.0 GPA and meet a number of other statutorily defined criteria.

Subagency: Institute of Education Sciences

Research in Special Education

This program supports research to address gaps in scientific knowledge in order to improve special education and early intervention services and results for infants, toddlers, and children with disabilities. The program enhances mathematics and science education for students with disabilities through research competitions on the development of mathematics and science curricula which address the needs of students with disabilities, as well as methods to improve assessment and teacher quality for these students.

Research, development, and dissemination

This program promotes excellence and equity in education by providing the information needed to ensure that all students meet or exceed challenging academic standards and master the skills they will need throughout their lives through sustained programs of research, evaluation, and data collection. The program specifically addresses mathematics and science through research competitions on the development and evaluation of mathematics and science curricula, and methods to improve assessment and teacher quality.

Subagency: Office of Elementary and Secondary Education

Math Now for Elementary School Students

The purpose of this program is to improve instruction in mathematics for K-7 students by implementing mathematics programs that reflect the best available evidence on early mathematics instruction, including the essential principles, practices, and components of mathematics instruction as recommended by the National Mathematics Panel. The goal of the program is to enable all students to reach grade-level achievement standards and prepare them to enroll in and pass algebra courses.

Math Now for Middle School Students

Through this proposed program, grantees would use funds to diagnose the deficiencies of middle-school students who are not proficient in math, implement appropriate interventions, monitor students' progress, and provide professional development in accordance with the principles, practices, and components defined by the National Mathematics Panel.

Mathematics and Science Partnerships

This is a formula grant program to States, and requires States to make competitive awards to projects that support professional development in mathematics and science. The projects support partnerships of arts and science and/or engineering faculty of institutions of higher education, and high need school districts with the goal of developing the content knowledge and teaching skills of participating teachers. Projects are required to report to ED annually on (1) increases in teachers' participation and content knowledge; and (2) impact on student learning.

Subagency: Office of Innovation and Improvement

Adjunct Teacher Corps

This proposed program would create opportunities for professionals and other individuals with subject-matter expertise to teach courses in the core academic subjects, particularly math, science, and critical foreign languages, on an adjunct basis. Grantees would be required to provide student achievement data on those students instructed by adjunct teachers.

Advanced Placement

This program supports two components: Advanced Placement Test Fees and Advance Placement Incentives. Eligible activities under the Incentives program include teacher training, development of pre-advanced placement courses, coordination and articulation between grade levels to prepare students for AP or IB courses, books and supplies, and participation in online AP or IB courses. The program does not currently focus on STEM, but the FY 2007 budget request would focus on mathematics, science, and critical foreign languages.

In FY 2007, the President set the goal of training 70,000 teachers to teach advanced placement mathematics, science, and critical foreign language courses to increase to 700,000 the number of students who annually pass advanced placement tests in those subjects. The amended program would give incentives to teachers and students that pass advanced placement exams, and the Federal investment would be matched 2:1 by private sector and State contributions.

Fund for the Improvement of Education (FIE)

FIE provides the authority to support nationally significant programs to improve the quality of elementary and secondary education.

Subagency: Office of Planning, Evaluation and Policy Development

Evaluation of Mathematics and Science Programs

This proposed program would conduct activities to improve the quality of evaluations of programs designed to improve elementary and secondary mathematics and science education.

National Mathematics Panel

As created by Executive Order, the President has established a National Mathematics Advisory Panel to distill the key principles, components, and practices of effective math, with the goal of preparing all students to take and pass algebra.

Subagency: Office of Postsecondary Education

Fund for the Improvement of Postsecondary Education (FIPSE)

FIPSE supports projects that are models for innovative reform and improvement in postsecondary education.

Graduate Assistance in Areas of National Need

The Graduate Assistance in Areas of National Need program awards grants to postsecondary institutions to provide scholarships to graduate students who demonstrate superior academic ability and a high degree of financial need. The program is designed to support graduate students pursuing specific high-need fields of study. Currently, the designated area of national need are biology, chemistry, computer and information sciences, engineering, geological and related sciences, mathematics, physics, and nursing.

Minority Science and Engineering Improvement Program

This program provides grants to effect long-range improvement in science education at predominantly minority institutions to increase the flow of underrepresented ethnic minorities, particularly minority women, into science and engineering careers.

Program name	Program Description
Upward Bound Math and Science Program	Upward Bound provides intensive academic instruction to high school students to generate the skills and motivation needed to pursue and complete a postsecondary education. The Upward Bound Math/Science program establishes mathematics and science centers which encourage students to pursue postsecondary degrees in those specific fields.

Subagency: Student Financial Aid

Teacher Loan Forgiveness	Highly qualified math, science, and special education teachers serving low-income communities may receive loan forgiveness of up to $17,500 for loans made between October 1, 1998, and September 30, 2005. Schools in these communities often are forced to hire uncertified teachers or assign teachers who are teaching "out of field." In FY 2007, the President proposes to make this expansion permanent, allowing schools to recruit and retain highly qualified math, science, and special education teachers.

Agency: **Department of Energy**

Subagency: DOE Office of Science (SC) and DOE National Nuclear Security Administration (NNSA)

U.S. Department of Energy Computational Science Graduate Fellowship (CSGF) Program

The DOE CSGF program directs talented graduate students into a course of study and research in academic disciplines that support computational science research and development applicable to DOE programs. The program provides incentives for well-qualified students to continue their studies in graduate school and to prepare for careers in the computational sciences. The combination of graduate study and research at academic institutions and practical research experience at DOE facilities ensures that the program produces individuals capable of making significant contributions to research and development in computational science relevant to DOE missions.

Subagency: NNSA Service Center

WERC: a Consortium for Environmental Education and Technology Development

The mission of WERC: has been, and continues to be, to develop human resources and technologies that assist various levels of government and other stakeholders in environmental and health related issues. This includes environmental restoration, waste minimization, pollution prevention, food safety, potable water, and contaminants of concern.

Subagency: Office of Biological and Environmental Research

Global Change Education Program (GCEP)

GCEP promotes undergraduate and graduate education/training that supports the DOE mission in the National Global Change Research Program. GCEP has two components: (1) Summer Undergraduate Research Experience (SURE), and (2) Graduate Research Environmental Fellowships (GREF).

Subagency: Office of Fusion Energy

Fusion Energy Postdoctoral Research Program

This program offers recent doctoral degree recipients the opportunity to conduct research in DOE fusion energy R&D programs. Participants acquire training in areas of fusion energy, interact with scientists and engineers, and have access to advanced equipment and facilities.

Fusion Energy Sciences Fellowship Program

This program encourages talented students to engage in the study and research of fusion energy sciences and technology, while fostering practical work experiences at recognized research facilities. Designed to provide incentive and support to students as they continue their education in graduate school and prepare for careers in fusion energy.

Subagency: Office of Nuclear Energy

Nuclear Engineering/Health Physics Fellowships and Scholarships to Nuclear Science and Engineering Programs at Universities

This program provides academic assistance to outstanding students through fellowships and scholarships. The Department of Energy provides tuition, stipends, and practicums to outstanding graduate students studying nuclear engineering and health physics and undergraduate scholarships and practicums to students pursuing a nuclear engineering course of study.

Subagency: Office of Workforce Development for Teachers and Scientists

Faculty and Student Teams

The FaST Program is a cooperative effort between the Department of Energy (DOE) Office of Science and the National Science Foundation (NSF). Faculty from colleges and universities with limited research facilities and those institutions serving populations, women, and minorities underrepresented in the fields of science, engineering, and technology are encouraged to apply for the FaST program. The FaST program will support a team comprised of one faculty member and 2 – 3 undergraduate students. The program provides hands-on research opportunities in DOE national laboratories during the summer. The faculty member identifies a mutually beneficial research area amenable to collaboration by the faculty member and the laboratory scientist.

National Middle School Science Bowl

This program supports the two competitions at the National Middle School Science Bowl - an academic math and science competition and a model fuel cell car competition. The academic competition is a fast-paced question-and-answer contest where students answer questions about earth science, physical science, life science, math, and general science. The model fuel cell car competition challenges students to design, build, and race model cars.

National Science Bowl

The National Science Bowl® is a highly visible educational event and academic competition among teams of high school students who attend science seminars and compete in a verbal forum to solve technical problems and answer questions in all branches of science and math. The regional and national events encourage student involvement in math and science activities, improve awareness of career options in science and technology, and provide an avenue of enrichment and reward for academic science achievement.

Science Undergraduate Laboratory Internship

This program places students in paid internships in Science and Engineering at any of several Department of Energy facilities. Many of the participants in the program have decided on a career in science and engineering because of the nature of the experience. Students work with scientists or engineers on projects related to the laboratories' research programs.

Agency: **Department of Health and Human Services**

Subagency: HRSA Bureau of Health Professions, Division of Nursing

Nurse Education, Practice and Retention (NEPR) Program

The NEPR program's purpose is to provide grant support for academic and continuing education projects designed to strengthen the nursing workforce and improve nurse retention and quality of care. The program is a broad authority with targeted purposes under education, practice and retention priority areas. There are nine purposes associated with the three priority areas:

I. Education (E) Priority Area:
Purpose E1: Expanding enrollment in baccalaureate nursing programs;
Purpose E2: Developing and implementing internship and residency programs to encourage mentoring and the development of specialties; or
Purpose E3: Providing education in the area of new technologies, including distance learning methodologies.

II.Practice (P) Priority Area:
Purpose P1: Establishing or expanding nursing practice arrangements in non-institutional settings (Nurse Managed Centers) to demonstrate methods to improve access to primary health care in medically underserved communities;
Purpose P2: Providing care for underserved populations and other high-risk groups such as the elderly, individuals with HIV/AIDS, substance abusers, the homeless, and victims of domestic violence;
Purpose P3: Providing managed care, quality improvement, and other skills needed to practice in existing and emerging organized health care systems; or
Purpose P4: Developing cultural competencies among nurses.

III. Retention (R) Priority Area:
Purpose R1: Career ladder programs which promote career advancement for registered nurses and nursing personnel; or
Purpose R2: Enhancing patient care delivery systems through improving the retention of nurses and enhancing patient care.

Nursing Workforce Diversity (NWD) Program

The NWD program's purpose is to provide grant support to increase nursing education opportunities for individuals from disadvantaged backgrounds (including racial and ethnic minorities underrepresented among registered nurses) through retention activities, pre-entry preparation, and by providing student scholarships or stipends.

• Retention activities are designed to assist nursing students from disadvantaged backgrounds to continue their pursuit of a nursing education. Project activities may include mentoring, tutoring, coaching or advanced technical (nursing skills), academic (science and math) and social enrichment strategies.

• Pre-entry activities are designed to enhance the academic abilities and preparation of students from disadvantaged backgrounds to increase their competitiveness for entry into, and graduation from a professional nursing program. Programs are targeted at improving communication, reading, math science and writing skills.

• Stipends and Scholarships are award by the grantee to disadvantaged students participating full-time in grant project activities.

Subagency: National Institutes of Health

NIH K-12 STEM Education Activities

NIH research impacts the health and well being of every person in the United States, and all science, technology, engineering and mathematics (STEM) disciplines contribute towards the advancement of this research. NIH requires a steady supply of talented STEM professionals in order to continue its history of medical discoveries. NIH supports more than 200,000 researchers and other personnel through approximately 50,000 biomedical research grants annually and its intramural program.

The NIH K-12 program seeks to develop, maintain, and renew the scientific human resources that will assure the Nation's capability to prevent disease. One way that NIH works towards this mission is by translating complex biomedical research knowledge into unique K-12 resources that teach state-of-the art scientific concepts through the use of rigorous content and application of research-based teaching strategies. NIH also funds cognitive research that seeks to extend our fundamental understanding of how students learn mathematics and science.

The strategy of the NIH K-12 program is to foster collaborations between STEM professionals and the K-12 community. Nearly 90% of this $35.9 million FY 2006 effort is driven by NIH grants to STEM professionals at universities, research institutions and medical schools across the country. Various NIH Institutes and Centers have K-12 related grants that support numerous collaborative projects nationwide. NIH also directly partners with the K-12 community. In many cases, these efforts are targeted at minority institutions and underserved populations. These collaborations result in:

• Instructional materials and teacher professional development focused on STEM content
• STEM work experiences for teachers and students
• Career resources that promote interest in STEM fields
• Basic and applied research in all aspects of mathematical thinking and problem solving, as well as in scientific reasoning, learning, and discovery

NIH STEM Outreach Activities

NIH research impacts the health and well being of every person in the United States, and all science, technology, engineering and mathematics (STEM) disciplines contribute towards the advancement of this research. It is thus imperative that NIH informs the public about the results of the research that they support.

The NIH Outreach program serves to bring the science content behind NIH-supported medical discoveries to the public in a meaningful way. This is distinct from the health and disease information that NIH provides to patients, their families and healthcare providers. The strategy of the NIH Outreach program is to enable dialogues between STEM professionals, informal science educators and the public. About 90% of this program is facilitated through grants to science museums and other informal education centers across the country. NIH also directly coordinates outreach efforts. In many cases, these efforts are targeted at minority institutions and underserved populations.

The NIH Outreach program includes activities that:

• Generate innovative, topical and interactive science exhibits for the general public
• Provide forums for public education and discussion on current medical research and health topics
• Highlight the relevance of basic scientific research to our health and well being

Program name	Program Description
Ruth L. Kirschstein National Research Service Award (NRSA) Program	The purpose of this program is to build and maintain research capacity to help ensure that diverse pools of highly trained scientists are available in adequate numbers and in appropriate research areas to address the Nation's biomedical, behavioral, and clinical research needs. The NRSA program was established by the National Research Act (P.L. 93-348) enacted by Congress in 1974. In 2002, Public Law 107-206, renamed the NRSA Program the Ruth L. Kirschstein National Research Service Award program, in acknowledgement of Dr. Kirschstein's contributions to the research training of new investigators, the NIH and the Nation. The NRSA program supports individual research fellowships and institutional research training grants primarily targeted at predoctoral and postdoctoral investigators. NRSA awards set the level of quality for the biomedical research training enterprise by establishing standards for biomedical research training and utilizing a rigorous process of peer review. NRSA institutional research training grants are awarded to research intensive institutions for up to five years that in turn select students to be supported for research training. NRSA individual research fellowships are awarded up to five years for individual predoctoral candidates and up to 3 years for postdoctoral fellows who apply to the NIH in order to obtain research experience under the guidance of a mentor at a sponsoring institution. To provide postdoctoral NRSA participants an added incentive to continue to pursue research careers, the NRSA program requires them to "pay back" the benefits they receive at critical junctures by conducting health-related research. Eligible program participants annually report on their activities to the NIH until the service obligation has been met. NRSA participants who fail to fulfill the service obligation are required to pay back the cost of the research training received, with interest.

Agency: **Department of Homeland Security**

Subagency:

Scholarship and Fellowship Program

In September 2003, DHS established the Scholarship and Fellowship Program. This evidence-based STEM education program is focused on developing a highly talented and diverse cadre of homeland security scientific personnel in six major disciplines from the social sciences to engineering. DHS achieved the planned level of approximately 300 participants in September 2005. The DHS science and engineering undergraduate and graduate students attend over 110 institutions of higher education, including Historically Black Colleges and Universities and other Minority Serving Institutions in over 40 states and the District of Columbia.

The Scholarship and Fellowship Program provides scholarships for undergraduate and fellowships for graduate students pursuing degrees in mission-relevant fields. The purpose of the program is to provide educational support and relevant experiential learning opportunities to diverse and highly talented individuals in order to enhance the scientific leadership in areas of importance to DHS. The chosen scholars are provided opportunities to:
1) Continue their education and research training in areas that support the DHS mission;
2) Become more familiar with the research and technology areas of DHS; and
3) Conduct research in fields that support the DHS mission.

Agency: **Department of the Interior**

Subagency: Bureau of Reclamation

Student Educational Employment Program (SEEP)   The SEEP program was created to attract students from secondary education to post secondary educational institutions in the fields of Science, Technology, Engineering and Mathematics.

Subagency: U.S. Geological Survey

Cooperative Research Units Program   This program links state agencies and universities with the federal government to meet a defined mission of research, education, and technical assistance. The Program operates 40 Cooperative Fish and Wildlife Research Units across 38 states, all located on university campuses where Federal scientists are appointed as graduate faculty, teaching and mentoring graduate students in a variety of natural resource fields.   (Established in 1936, this program was authorized officially by the Cooperative Units Act of 1960 (Public Law 86-686, Sec.1, Sept. 2, 1960, 74 Stat. 733, as amended by the Fish and Wildlife Improvement Act of 1978, Public Law 95-616, Sec. 2, Nov. 8, 1978, 92 Stat.3110).

EDMAP Component of the National Cooperative Geologic Mapping Program   EDMAP is a grant program designed to train tomorrow's geologic mappers. It was established by the National Mapping Act of 1992 (reauthorized in 1999), which recognizes the importance of geologic mapping for our Nation's well-being, and stipulates that a portion of the funding for the Program should be directed to training a new generation of geologic mappers.

Water Resources Research Act Program   This program provides support to State Water Resources Research Institutes that conduct research to foster (1) the entry of new research scientists into the water resources fields, (2) the training and education of future water scientists, engineers, and technicians, (3) the preliminary exploration of new ideas that address water problems or expand understanding of water and water-related phenomena, and (4) the dissemination of research results to water managers and the public.

Agency: **Department of Transportation**

Subagency: Federal Highway Administration

Dwight David Eisenhower Transportation Fellowship Program

This program seeks to attract highly qualified students to the fields of transportation education and research and advance transportation workforce development. Full-time graduate and undergraduate students (juniors/seniors at MIHEs) are eligible to apply for fellowships. Funded at $2.2 M annually.

Garrett A. Morgan Technology and Transportation Education Program

The program seeks to improve the preparation of students, particularly women and minorities, in science, technology, engineering, and mathematics (STEM) through curriculum development and other activities related to transportation. Funded at $1,250,000 per fiscal years 2006-2009, the program awards grants to "local and state educational agencies, which may enter into partnership agreement with institutions of higher education, businesses, or other entities" to enhance STEM at elementary and secondary school levels.

Subagency: Maritime Administration

The State Maritime Academy (SMA), Student Incentive Payment (SIP) Program

This program is a Federal and State Partnership to support the Federal purpose of educating and graduating U.S. licensed officers for the American merchant marine.

The U.S. Merchant Marine Academy (USMMA)

USMMA educates U.S. citizens in marine transportation and marine engineering disciplines who serve as well qualified U.S. maritime labor to support DOD mobilization requirements while sustaining commerce.

Subagency: Research and Innovative Technology Administration

University Transportaion Centers (UTC) Program

The UTC Program is designed to advance significantly the state-of-the-art in transportation research and expand the workforce of transportation professionals through the following programs and activities:

Research -- Basic and applied research, the products of which are judged by peers or other experts in the field of transportation to advance the body of knowledge in transportation.

Education -- An education program relating to transportation that includes multidisciplinary course work and participation in research.

Technology Transfer -- An ongoing program of technology transfer that makes transportation research results available to potential users in a form that can be implemented, utilized, or otherwise applied.

Agency: **Environmental Protection Agency**

Subagency:

The Greater Research Opportunities (GRO) Fellowship Program

The GRO Fellowship program awards graduate and undergraduate fellowships with the intentions of strengthening the environmental research capacity of institutions of higher education that receive limited funding to build such capacity. This population includes, but is not limited to, institutions with substantial minority enrollment. Additionally, the undergraduate portion of the program intends to support quality environmental education to undergraduate students, thereby encouraging them to pursue careers in environmentally related fields and to continue their education beyond the baccalaureate level.

Subagency: Office of Pollution Prevention and Toxics

Green Chemistry Program

This program supports high-level recognition of outstanding green chemistry technologies; tools for information dissemination; as well as some education components, although the bulk of the education activities occured in prior years.

Green Engineering Program

The Green Engineering program works with universities and professional societies to incorporate Green Engineering into Chemical Engineering curricula with the aim to develop future chemical engineers with Green Engineering training. The program offers workshops to educators where attendees also receive hands-on training and education on a number of selected EPA risk-based tools and other risk-based/green engineering design tools. A Green Engineering textbook was also created and provided to more than 50 engineering schools in the U.S. and internationally.

Subagency: Office of Research and Development

Science to Achieve Results (STAR) Graduate Fellowship Program

The purpose of the STAR Fellowship program is to encourage promising students to obtain advanced degrees and pursue careers in an environmental field. This goal is consistent with the immediate and long-term mission of EPA, to protect public health and the environment. This program has proven to be beneficial to both the public and private sectors by providing a steady stream of well-trained specialists to meet environmental challenges in our society. It has also provided new environmental research in physical, biological, health and social sciences, and engineering.

Agency: **National Aeronautics and Space Administration**

Subagency: Office of Education

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e-Education Program

This program sustains the research and development of technology applications, products, services and implementation of technology-enriched infrastructure in facilitating the appropriate and effective technology-based applications to enhance the educational process for formal and informal education. In addition, e-Education identifies projects that will meet the President's Management Agenda of providing citizen-centric services related to NASA Education efforts.

Specific efforts include: Learning Technologies Project (LTP), NASA Educational Technologies Services, Classroom of the Future, e-Education Small Programs.

Elementary & Secondary Education Program

This program provides K-12 educators with tools, experiences, and opportunities to further their education and participate in unique NASA learning experiences to enhance their knowledge of STEM and inspire pursuit of STEM careers. The program supports the role of educational institutions, which provide the framework to unite students, families, and educators for educational improvement.

Specific efforts include: Educator Astronaut Program, Aerospace Education Services Program (AESP), NASA Explorer Schools (NES), Interdisciplinary National Science Program Incorporating Research and Education Experience (INSPIRE), Science Engineering Mathematics and Aerospace Academy Program (SEMAA), Education Flight Projects.

Higher Education Program

This program focuses on supporting institutions of higher education in strengthening their research capabilities and providing opportunities that attract and prepare increasing numbers of students for NASA-related careers. The research conducted by the institutions will contribute to the research needs of NASA's Mission Directorates. The student projects serve as a major link in the student pipeline for addressing NASA's Human Capital Strategies and the President's Management Agenda by helping through hands-on experiences to build, sustain, and effectively deploy the skilled, knowledgeable, diverse, and high performing workforce needed to meet the current and emerging needs of government and its citizens.

Specific efforts include: Space Grant, Experimental Program to Stimulate Competitive Research (EPSCoR), Graduate Student Research Program (GSRP), Undergraduate Student Research Program (USRP).

Informal Education Program

This program is designed to increase learning, to educate students, educators and the general public on specific science, technology, engineering or math (STEM) content areas, and to expand the nation's future STEM workforce. Projects within the program produce supplemental educational materials/handouts that are standards based, support staff/facilitators, trained or qualified in STEM/education fields, actively working with participants to further enhance their understanding, and develop content based on educational standards and/or learning objectives to supplement and enrich an experience, visual, or activity.

Specific Efforts include the NASA Explorer Institutes.

Program name	Program Description
Minority University Research and Education Program	This program engages under-represented populations through a wide variety of initiatives. Multi-year grants are awarded to engage minority institutions, faculty and students in research pertinent to NASA missions. The program focuses on retaining underrepresented and underserved students in a STEM discipline through completion of undergraduate or graduate degrees and entry into the scientific and technical workforce. Specific Efforts include University Research Centers (URC), Faculty Awards for Research (FAR), Curriculum Improvement Partnership Award (CIPA), Research Academy, Jenkins Graduate Fellowship Program, Tribal College and University Program, NASA Administrator's Fellowship Program, MUREP Small Programs, and Motivating Undergraduates in Science & Technology (MUST).

Agency: **National Science Foundation**

Subagency:

Advanced Technological Education (ATE)	With an emphasis on two-year colleges, the ATE program focuses on the education of technicians for the high-technology fields that drive our nation's economy. The program involves partnerships between academic institutions and employers to promote improvement in the education of science and engineering technicians at the undergraduate and secondary levels.
Alliances for Graduate Education and the Professoriate (AGEP)	The AGEP program supports the establishment of alliances of colleges and universities to develop and implement innovative models for recruiting, mentoring, and retaining minority students in STEM doctoral programs. Alliances participating in this program are expected to engage in comprehensive institutional cultural changes that will lead to sustained increases in the conferral of STEM doctoral degrees, significantly exceeding historic levels of performance.
Broadening Participation in Computing (BPC)	The BPC program aims to significantly increase the number of U.S. citizens and permanent residents receiving post secondary degrees in the computing disciplines. Initially, its emphasis will be on students from communities with longstanding underrepresentation in computing: women, persons with disabilities, and minorities. Included minority groups are African Americans, Hispanics, American Indians, Alaska Natives, Native Hawaiians, and Pacific Islanders. While these efforts focus on underrepresented groups, it is expected that the resulting types of interventions will improve research and education opportunities for all students in computing.
Centers for Ocean Science Education Excellence (COSEE)	The COSEE program supports a network of coordinated regional centers that facilitate collaborations and communications between ocean science researchers and educators, in both formal and informal settings.
Centers for Research Excellence in Science and Technology (CREST)	The CREST program makes resources available to significantly enhance the research capabilities of minority-serving institutions through the establishment of centers that effectively integrate education and research. CREST promotes the development of new knowledge, enhancements of the research productivity of individual faculty, and an expanded diverse student presence in STEM disciplines. The variety and scope of CREST projects encompass nearly every traditional STEM discipline and seek to advance human knowledge by defining innovative areas of study. Each CREST project strives to build upon the state of the art in its particular research areas, while at the same time bringing these advancements to the next generation of STEM practitioners and to the general public. A particular emphasis is placed on increasing the recruitment and retention of historically underserved populations in quality STEM study and productive, fulfilling STEM careers. To this end, CREST sites are expected to complement their research efforts with innovative new education programs and to forge lasting, mutually beneficial links to other learning institutions, regional industries and national laboratories.
Course, Curriculum and Laboratory Improvement (CCLI)	The CCLI program seeks to improve the quality of science, technology, engineering, and mathematics (STEM) education for all undergraduate students. It does this by supporting individual projects at a full range of institutions of higher education, in a full range of STEM disciplines. The program seeks to stimulate, disseminate, and institutionalize innovative and effective developments in undergraduate STEM education through the introduction of new content reflecting cutting edge developments in STEM fields, the production of knowledge about learning, and the improvement of educational practice. The program supports three types of projects representing three different phases of development, ranging from small exploratory investigations to large comprehensive projects.

Program name	Program Description
Cyberinfrastructure Training, Education, Advancement, and Mentoring for Our 21st Century Workforce (CI-TEAM)	The CI-TEAM program supports Demonstration and Implementation Projects aimed at positioning the national science and engineering community to more effectively engage in national and global research and education activities that promote and leverage cyberinfrastructure. CI-TEAM awards will: • Prepare current and future generations of scientists, engineers, and educators to use, support, deploy, develop, and design cyberinfrastructure; and • Foster inclusion in cyberinfrastructure activities, of diverse groups of people and organizations, with particular emphasis on traditionally underrepresented groups.
Discovery Research K-12 (DR-K12)	The DR-K12 program is designed to build on the programmatic strengths of three existing programs: Instructional Materials Development (IMD), Teacher Professional Continuum (TPC), and Centers for Learning (CLT) programs. The DR-K12 program comprises research, development and evaluation activities through which knowledge is generated and applied with some immediacy to improve STEM learning and teaching.
Engineering Education Reform (EER)	The EER program supports research that contributes to our basic understanding of how students learn engineering and promotes significant breakthroughs in understanding so that our undergraduate and graduate engineering education can be transformed to meet the needs of the changing economy and society.
Excellence Awards in Science and Engineering (EASE)	EASE is a new program that is a combination of three existing programs designed to recognize excellence by teachers, scholars and organizations: • The Distinguished Teacher's Scholars (DTS) program was established in FY 2001. Awards are made to distinguished faculty for substantive research in their fields and the integration of research and education in their scholarly work at K-16 level. • The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) program was established in 1983 by the White House. Up to 108 awards are made available to individual teachers annually. • The Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM) was established in 1996 by the White House for highlighting the importance of role models and mentors in the academic, professional and personal development of students from K-12 through graduate levels who are from groups underrepresented in STEM.
Federal Cyber Service: Scholarship for Service/Cybercorps (SFS)	The SFS program supports scholarships and capacity building activities designed to recruit, retain and graduate increased numbers of students at the undergraduate and graduate levels in the field of cyber security.
Geoscience Teacher Training (GEO-Teach)	The GEO-Teach program is designed to implement, at a national scale, effective teacher professional development and teacher training activities that will have transformative impact on the quality, scientific accuracy, and rigor of geoscience instruction.
Graduate Research Fellowships (GRF)	The GRF program is one of the nation's pre-eminent predoctoral fellowship programs in STEM fields. It is the oldest and largest STEM graduate program in the U.S. The program awards fellowships for graduate study leading to research-based masters or doctoral degrees. GRF provides fellows with three years of support within a five-year period, which may be used at an institution in the United States or abroad. The fellowships are intended for individuals in the early stages of their graduate study. All applicants are expected to have adequate preparation to begin graduate level study and research by summer or fall of the following year. Applicants must provide detailed profiles of individual interests, relevant educational and research experiences, and plans for graduate education.

Program name	Program Description
Graduate Teaching Fellows in K-12 Education (GK-12)	The GK-12 program provides funding to graduate students in NSF-supported science, technology, engineering, and mathematics (STEM) disciplines to acquire additional skills that will broadly prepare them for professional and scientific careers in the 21st century. Through interactions with teachers in K-12 schools, graduate students can improve communication and teaching skills while enriching STEM instruction in K-12 schools. Through this experience graduate students can gain a deeper understanding of their own scientific research. In addition, the GK-12 program provides institutions of higher education with an opportunity to make a permanent change in their graduate programs by incorporating GK-12 like activities in the training of their STEM graduate students.
Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)	HBCU-UP supports a wide range of activities that will increase the quality of STEM education, increase participation and success in undergraduate STEM programs, and increase access to undergraduate STEM research opportunities. The overall efforts address the HBCU's institutional STEM needs, long-term goals, and mission. Activities may include course and curriculum development, revision, and enhancement; undergraduate student support servicies, academic success, and educational enrichment; and faculty development.
Informal Science Education (ISE)	The ISE program is a primary source of funding in the U.S. for promoting public interest, understanding, and engagement in science, technology, engineering, and mathematics (STEM) through voluntary, self-directed, and lifelong learning opportunities. The ISE program promotes public engagement with and understanding of STEM through such means as exhibitions, media projects, and educational programs, such as citizen science. ISE projects advance the frontiers of informal science education while reaching audiences of all ages and backgrounds across the nation in museums, theaters, community centers, the home (e.g., TV, radio, web), and other settings, including outdoor environments.
Information Technology Experiences for Students and Teachers (ITEST)	Initiated in response to the American Competitiveness in the 21st Century Act of 2000, the ITEST program provides opportunities for students and teachers (grades 7-12) to learn about, experience, and use information technology (IT) in the context of STEM education. To achieve its goals, this K-12 pathways program forges collaborations among higher education, museums, science centers, industry, and middle and secondary schools.

Youth-Based Projects provide students with intensive summer and academic year follow-up opportunities, allowing participants to meet and work with scientists and STEM professionals, gain in-depth exploration of content, and obtain guidance on college preparation. Comprehensive Projects provide STEM teachers with year-round professional development in IT concepts, skills, applications, and strategies that promote inquiry and practice skills while providing summer laboratory experiences for students. |
Integrative Graduate Education and Research Traineeship Program (IGERT)	The IGERT program has been developed to meet the challenges of educating U.S. Ph.D. scientists and engineers who will pursue careers in research and education, with the interdisciplinary backgrounds, deep knowledge in chosen disciplines, and technical, professional, and personal skills to become, in their own careers, leaders and creative agents for change.
Interdisciplinary Training for Undergraduates in Biological and Mathematical Sciences (UBM)	The UBM program aims to broaden undergraduate research experiences and enhance capacity for, infrastructure in support of, and commitment to excellence in undergraduate education.
IT Workforce Education Initiative (IWEI)	Initial projects funded through IWEI program will focus on planning activities, small group pilot activities and large team or multi-institutional curricular and organizational models addressing campus-wide integration of IT education and research and the design of computing curricula that reflect the integrative nature of IT. Later program activities will promote the best of the pilot models resulting from 2007 funding.

Program name	Program Description
Louis Stokes Alliances for Minority Participation (LSAMP)	The LSAMP program is a multi-disciplinary comprehensive program designed to increase substantially the quality and quantity of students receiving baccalaureate degrees in STEM fields and well prepared for either doctoral study or professional practice in STEM fields normally supported by NSF. LSAMP encourages the formation of alliances among leaders throughout academia, government, industry, and other organizations. The LSAMP program supports comprehensive attention to those processes and factors that promote baccalaureate attainment, preparation for graduate study, and preparation for successful careers by students within alliances. These alliances may include partners drawn from among two- and four-year higher education institutions, businesses and industries, national research laboratories, local, state, and Federal agencies. LSAMP provides financial assistance to many of its participants. Distinguishing it from traditional scholarship programs, LSAMP takes a multidisciplinary approach to student development and retention, creating partnerships among colleges, universities, national research laboratories, business and industry, and other federal agencies in order to accomplish its goals. Hands-on research experiences and mentoring to build student interest in STEM are LSAMP's other key characteristics.
Math and Science Partnership (MSP)	The MSP program at NSF has integrated the work of higher education with that of K-12 to strengthen and reform science and mathematics education. The MSP seeks to improve student outcomes in mathematics and science for all students, at all grade levels. As overall student achievement rises, MSP projects are expected to reduce achievement gaps in the mathematics and science performance of diverse student populations. The program emphasizes promising partnerships between institutions of higher education – especially their disciplinary faculty in mathematics, science and/or engineering – and local school districts, with other important stakeholders as supporting partners. NSF's MSP program is being consolidated with the MSP program at the Department of Education.
National STEM Education Digital Library (NSDL)	Building on work supported under the multi-agency Digital Libraries Initiative, the NSDL program aims to establish a national digital library that will constitute an online network of learning environments and resources for science, technology, engineering, and mathematics (STEM) education at all levels. The NSDL program is laying the groundwork for an online network for STEM education in both formal and informal settings. The resulting digital library is intended ultimately to meet the needs of students and teachers at all levels -- pre-K to 12, undergraduate, graduate, and lifelong learning.
NSF Academies for Young Scientists (NSFAYS)	The NSFAYS program supports highly innovative projects that expose students to innovative out-of-school time (OST) learning experiences that demonstrate effective synergies with in-school curricula, and take full advantage of the special attributes of each educational setting in synergistic ways. Projects structure highly motivational experiences for students while providing essential STEM preparation. Professional development for classroom teachers and OST education providers are critical to the success of NSFAYS Projects. The portfolio of NSFAYS Projects is intended to explore a variety of implementation models in urban, rural and suburban settings representing diverse student populations. This portfolio of projects, taken as a whole, informs NSF and the broader educational community of what works and what does not, for whom, in what settings. One NSFAYS Research and Evaluation Center will be funded to provide research and evaluation support for the NSFAYS program. It is anticipated that the Center will synthesize research emerging from the funded NSFAYS Projects and have responsibility for national dissemination of program models, findings, and best practices for attracting K-8 students to, prepare them for, and retain them in science, technology, engineering, and mathematics (STEM) disciplines, leading to an increase in the pool of students continuing in STEM coursework in high school and considering careers in STEM fields.
Opportunities for Enhancement of Diversity in the Geosciences (OEDG)	The OEDG program provides targeted education, research, and mentoring activities that will increase the number of members of underrepresented groups involved in formal pre-college and informal geoscience education programs, pursuing undergraduate and advanced degrees in the geosciences, and entering geoscience careers.

Post-Doctoral Fellowship Programs (PFP)

Post-doctoral Fellowship Programs (PFP) are comprised of eight efforts across five directorates that provide individual postdoctoral fellowships to support training and research in areas supported by NSF. PFPs provide an opportunity for highly qualified investigators to carry out an integrated program of independent study. Their projects enhance research capacity and infrastructure, contribute to workforce development and job creation, thereby furthering NSF's goal of creating a diverse, competitive, and globally-engaged U.S. workforce of scientists, engineers, technologists and well-prepared citizens. PFPs recognize young investigators of significant potential, and provide them with experience in research and education that will establish them in positions of distinction and leadership in the community.

Research and Evaluation on Education in Science and Engineering (REESE)

The REESE program supports basic and applied research and evaluation that enhances STEM learning and teaching. It supports two types of research – synthesis studies and empirical proposals. Synthesis studies identify areas where the knowledge base in either evaluation or research is sufficiently robust to support strong scientific claims, identify areas important to education research and practice, and propose rigorous methods for synthesizing findings and drawing conclusions. Empirical proposals identify areas that have the potential for advancing discovery and innovation at the frontiers of STEM learning.

Research Experiences for Undergraduates (REU) Sites

The REU program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects designed especially for the purpose. REU Sites initiate and conduct projects that engage a number of students in research. REU Sites may be based in a single discipline or academic department, or on interdisciplinary or multi-department research opportunities with a coherent intellectual theme. Some REU Sites also have an international dimension. (A partnership with the Department of Defense supports REU Sites in DoD-relevant research areas.)

Research in Disabilities Education (RDE)

The RDE program supports efforts to increase the participation and achievement of persons with disabilities in science, technology, engineering, and mathematics (STEM) education and careers. Meritorious projects from a diversity of institutions are supported via the RDE Demonstration, Enrichment, and Information Dissemination (RDE-DEI) program track. Promising research efforts are also further developed via awards under the Focused-Research Initiatives (RDE-FRI) program track. In the third program track, broadly applicable methods and products are disseminated for widespread use, commercialization, or inclusion in the activities of program-sponsored Regional Alliances for persons with disabilities in STEM education (RDE-RAD). RDE Alliances serve to inform the public, government, and industry about proven-good practices in the classroom, promote broader awareness of disabilities issues, and define specific areas of accessibility and human learning in need of further attention by educators and the research community.

Research on Gender in Science and Engineering (GSE)

The GSE program seeks to broaden the participation of girls and women in all fields of science, technology, engineering, and mathematics (STEM) education by supporting research, dissemination of research, and integration of proven good practices in education that will lead to a larger and more diverse domestic science and engineering workforce. Typical projects will contribute to the knowledge base addressing gender-related differences in learning and in the educational experiences that affect student interest, performance, and choice of careers; and how pedagogical approaches and teaching styles, curriculum, student services, and institutional culture contribute to causing or closing gender gaps that persist in certain fields. Projects will disseminate and apply findings, evaluation results, and proven good practices. The Research on Gender in Science and Engineering program has been funding these objectives since 1993, under the prior names "Program for Women and Girls" (PWG), "Program for Gender Equity in Science, Mathematics, Engineering and Technology" (PGE), and "Gender Diversity in STEM Education" (GDSE).

Robert Noyce Scholarship Program (NOYCE)

This program seeks to encourage talented science, technology, engineering, and mathematics majors and professionals to become K-12 mathematics and science teachers. It provides funds to institutions of higher education to support scholarships, stipends, and programs for students who commit to teaching in high need K-12 school districts.

Program name	Program Description
Scholarships in Science, Technology, Engineering and Mathematics (S-STEM)	Building upon the successes of its predecessor program, the H-1B visa fee-funded Computer Science, Engineering, and Mathematics Scholarships (CSEMS) program, the S-STEM program -- renamed in FY 2006 to account for its expanded disciplinary eligibility -- makes grants to institutions of higher education to support scholarships for academically talented, financially needy students, enabling them to enter the workforce following completion of an associate, baccalaureate, or graduate level degree in science and engineering disciplines. Grantee institutions are responsible for selecting scholarship recipients, reporting demographic information about student scholars, and managing the S-STEM project at the institution.
STEM Talent Expansion Program (STEP)	This program provides funding to institutions for projects at eligible institutions of higher education for a diverse set of activities including funding initiatives for undergraduate students. STEP has supported two types of projects – those aimed at implementing strategies that will lead to an increase in the number of students obtaining STEM degrees (Type 1) and those that conduct educational research on degree attainment in STEM (Type 2).
Tribal Colleges and Universities Program (TCUP)	TCUP promotes sustainable improvement of undergraduate science, technology, engineering and mathematics (STEM) instructional and outreach programs, with an emphasis on the expansion of course and degree offerings, undergraduate research opportunities, and the use of information technologies at Tribal Colleges and Universities, Alaskan Native-serving institutions and Native Hawaiian-serving institutions. Support is available for the implementation of comprehensive institutional approaches to strengthen STEM teaching and learning in ways that improve access to, retention within, and graduation from STEM disciplines, and bridge the digital divide.
Undergraduate Mentoring in Environmental Biology (UMEB)	The UMEB program is designed to enable institutions to create programs that will encourage undergraduate students, especially those from underrepresented groups, to pursue a career in environmental biology.
Undergraduate Research Collaboratives (URC)	The URC program develops new models and partnerships between research universities, 4-year colleges and 2-year colleges with the potential to expand the reach of undergraduate research to include first- and second-year college students, to broaden participation, and increase diversity in the student talent pool from which the nations's future technical workforce will be drawn and to enhance the research capacity, infrastructure and culture of participating institutions.
Vertical Integration of Research and Education in the Mathematical Sciences (VIGRE)	The long-range goal of the EMSW21 program is to increase the number of well-prepared U.S. citizens, nationals, and permanent residents who pursue careers in the mathematical sciences and in other NSF-supported disciplines. EMSW21 attempts to accomplish this goal through three separate components: The Vertical Integration of Research and Education (VIGRE) program supports activities that involve the entire department and span the entire spectrum of educational levels from undergraduates through postdoctoral associates; Research Training Groups (RTG) support the training activities of a group of faculty who have a common research interest; Mentoring through Critical Transition Points (MCTP) involves a larger group of faculty but focuses on specified stages in the professional development of the trainees. The (VIGRE) component focuses on enhancing the educational experience of all students and postdoctoral associates in a department (or departments).

Program name   Program Description