

(1) to improve the quality of instruction in the fields of mathematics, science, and engineering;

(2) to support research, fellowships, teacher-faculty-business exchange programs in mathematics, science, and engineering;

(3) to improve the quality and availability of instrumentation for mathematics, science, and engineering instruction;

(4) to encourage partnerships in education between local and State education agencies, business and industry, colleges and universities, and cultural and professional institutions and societies; and

(5) to improve the quality of education at all levels in the fields of mathematics, science, and engineering.

(b) In exercising its responsibilities to strengthen scientific and engineering research potential and science and engineering education programs at all levels, the Foundation shall avoid undue concentration of support for research and education activities.

(Pub. L. 98-377, title I, §101, as added Pub. L. 99-159, title II, §201, Nov. 22, 1985, 99 Stat. 893.)

#### PRIOR PROVISIONS

A prior section 3911, Pub. L. 98-377, title I, §101, Aug. 11, 1984, 98 Stat. 1268, related to grants for teacher institutes, prior to the general revision of this subchapter by section 201 of Pub. L. 99-159. See section 3913 of this title.

#### UNDERGRADUATE SCIENCE IMPROVEMENT

Pub. L. 100-570, title I, §112, Oct. 31, 1988, 102 Stat. 2870, provided that:

“(a) The Congress finds that the support of undergraduate science and engineering education is a critical component in a comprehensive national policy intended to ensure the Nation’s future supply of scientists and engineers.

“(b) In accordance with the provisions of this Act [see Tables for classification], the Foundation shall support undergraduate science and engineering activities in instrumentation and laboratory improvement, undergraduate faculty enhancement, undergraduate research opportunities, undergraduate curriculum development, and efforts to encourage the participation of women, minorities, and the disabled in such fields.

“(c) In carrying out the provisions of this section, the Foundation shall take into account the special needs of two-year and four-year colleges and universities.”

#### § 3912. Functional objectives; uses of funds

(a) In carrying out its science and engineering education responsibilities, the Foundation shall have the following functional objectives: public understanding of science and technology, faculty enhancement, student education and training, instructional development and instrumentation, and materials development and dissemination.

(b) Funds under this subchapter shall, consistent with such functional objectives, be used for—

(1) enhancement of public understanding of science and engineering through informal education activities using a variety of mediums such as broadcasting, museums, clubs, and amateur science societies;

(2) development of new science and engineering faculty resources and talents;

(3) enhancement of the quality of science and engineering instruction in colleges of teacher education;

(4) development of four-year college faculty and instructors in high technology fields;

(5) development of two-year community college faculty and instructors especially in high technology fields;

(6) development of precollege mathematics, science and engineering education and training;

(7) encouragement of potential students, including underrepresented and underserved populations, to pursue careers in mathematics, science, engineering, and critical foreign languages;

(8) development of instructional instrumentation and systems for postsecondary technical, engineering, and scientific education; and

(9) development of science, engineering, and education networks to aid in the development and dissemination of successful curricula, methods, and materials.

(Pub. L. 98-377, title I, §102, as added Pub. L. 99-159, title II, §201, Nov. 22, 1985, 99 Stat. 894.)

#### PRIOR PROVISIONS

A prior section 3912, Pub. L. 98-377, title I, §102, Aug. 11, 1984, 98 Stat. 1268, related to submission, contents, etc., of applications, prior to the general revision of this subchapter by section 201 of Pub. L. 99-159.

#### § 3913. Teacher institutes

##### (a) Authorization to make competitive grants; covered institutions, businesses, etc.; purpose

The Foundation shall, in accordance with the provisions of this subchapter, make competitive grants to institutions of higher education, businesses, nonprofit private organizations (including schools), local education agencies, professional engineering and scientific associations, museums, libraries, public broadcasting entities (as defined in section 397(11) of title 47), and appropriate State agencies to support institutes and workshops for supervisors and teachers in public and private elementary and secondary schools for the purpose of improving the subject knowledge and teaching skills of such teachers in the areas of mathematics and science.

##### (b) Equitable distribution of grants; awards in each State

In making grants under this section, the Foundation shall assure that there is an equitable distribution among States of institutes established and operated with funds made available under this section. The Foundation shall award not less than one institute in each State, except that the Foundation may waive this requirement if there is no proposal from a State which meets the requirements of this subchapter. Proposals which exceed \$300,000 in any fiscal year incorporating the services or resources of more than two entities in the design and operation of the institute, may be funded at the discretion of the Director of the Foundation.

##### (c) Cooperation of advanced technology businesses and other businesses

Institutes assisted under this subchapter may, to the extent possible, involve the cooperation

of advanced technology businesses and other businesses which are able to supply assistance in the teaching of mathematics and science.

**(d) Requirement of involvement in planning and development**

In making grants under this subchapter, the Foundation shall require assurances that local education agencies will be involved in the planning and development of the institute in the case of applications submitted by other eligible applicants described in subsection (a) of this section, or that one or more such applicants will be involved in the planning and development of the institute in the case of applications submitted by State or local education agencies.

(Pub. L. 98-377, title I, §103, as added Pub. L. 99-159, title II, §201, Nov. 22, 1985, 99 Stat. 894.)

PRIOR PROVISIONS

A prior section 3913, Pub. L. 98-377, title I, §113, Aug. 11, 1984, 98 Stat. 1269, related to distribution of assistance and limitation on grants, prior to the general revision of this subchapter by section 201 of Pub. L. 99-159. See subsec. (b) of this section.

**§ 3914. Materials development and methods research for mathematics, science, and engineering**

**(a) Authorization to award competitive grants; covered institutions, businesses, etc.; purposes**

The Foundation is authorized, in accordance with the provisions of this subchapter, to award competitive grants to institutions of higher education, businesses, nonprofit private organizations, local education agencies, professional engineering and scientific associations, museums, libraries, public broadcasting entities (as defined in section 397(11) of title 47), and appropriate State agencies—

- (1) for instructional curriculum improvement and faculty development in mathematics, science, and engineering;
- (2) for programs designed to enhance public understanding of mathematics, science, and engineering, including the use of public broadcasting entities; and
- (3) for research on methods of instruction and educational programs in mathematics, science, engineering, and critical foreign languages.

**(b) Scope of studies**

Studies conducted under subsection (a)(3) may include—

- (1) teaching and learning research and its application to local and private sector instructional materials development and to improved teacher training programs;
- (2) research on the use of local and informal science education activities;
- (3) research on recruitment, retention, and improvement of mathematics, science, engineering, and critical languages faculties; and
- (4) analysis of materials and methods for mathematics, science, and engineering education used in other countries and their potential application in the United States.

**(c) Matching grant requirements**

Funds awarded for such competitive grants shall be expended through a system requiring

matching of the grant. The minimum amount required as a match shall be equal to a percentage of the grant that is determined by the Foundation. Funds made available for matching purposes may include in-kind services or other resources.

**(d) Materials or methods research application requirements**

In making grant applications for materials or methods research for the purposes described in subsections (a)(1) and (a)(3), the Foundation shall assure the involvement of appropriate State or local education agencies in the case of applications submitted by other entities described in subsection (a), or that one or more of such other entities will be consulted in the case of applications submitted by State or local education agencies.

(Pub. L. 98-377, title I, §104, as added Pub. L. 99-159, title II, §201, Nov. 22, 1985, 99 Stat. 895.)

PRIOR PROVISIONS

A prior section 3914, Pub. L. 98-377, title I, §114, Aug. 11, 1984, 98 Stat. 1269, related to cooperation with business concerns, prior to the general revision of this subchapter by section 201 of Pub. L. 99-159. See section 3913(c) of this title.

**§ 3915. Graduate fellowships**

The Foundation is authorized, in accordance with the provisions of this subchapter, to establish and carry out a program of graduate fellowships for the purpose of encouraging and assisting promising students to continue their education and research in mathematics, science, and engineering.

(Pub. L. 98-377, title I, §105, as added Pub. L. 99-159, title II, §201, Nov. 22, 1985, 99 Stat. 896.)

PRIOR PROVISIONS

A prior section 3915, Pub. L. 98-377, title I, §115, Aug. 11, 1984, 98 Stat. 1269, related to special consideration for applications meeting the needs of underrepresented and underserved populations, prior to the general revision of this subchapter by section 201 of Pub. L. 99-159. See section 3919 of this title.

**§ 3916. Other functional activities**

(a) The Foundation is authorized to expend up to 15 per centum of the funds available for science and engineering education for applications which the Foundation determines will meet one or more of the functional objectives described in section 3912(b) of this title.

(b) Such programs may include a program for the exchange of mathematics, science, or engineering faculty between institutions of higher education (particularly institutions having nationally recognized research facilities) and eligible institutions. For the purposes of this section, the term “eligible institution” means an institution of higher education which—

- (1) has an enrollment which includes a substantial percentage of students who are members of a minority group, or who are economically or educationally disadvantaged; or
- (2) is located in a community that is not within commuting distance of a major institution of higher education; and
- (3) demonstrates a commitment to meet the special educational needs of students who are