

provides assurances of new matching funds and submits an acceptable new plan for using Program funds and matching funds to build the research capabilities of the State.

(Pub. L. 100-570, title I, § 113, Oct. 31, 1988, 102 Stat. 2870; Pub. L. 114-329, title I, § 103(e)(2), Jan. 6, 2017, 130 Stat. 2975.)

Editorial Notes

CODIFICATION

Section was enacted as part of the National Science Foundation Authorization Act of 1988, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

AMENDMENTS

2017—Pub. L. 114-329, § 103(e)(2)(A), substituted “Established” for “Experimental” in section catchline.

Subsec. (a). Pub. L. 114-329, § 103(e)(2)(B), substituted “a program to stimulate competitive research (known as the ‘Established Program to Stimulate Competitive Research’)” for “an Experimental Program to Stimulate Competitive Research” in introductory provisions.

Subsec. (b). Pub. L. 114-329, § 103(e)(2)(C), substituted “the Program” for “the program”.

Statutory Notes and Related Subsidiaries

PLANNING GRANTS

Pub. L. 107-368, § 26, Dec. 19, 2002, 116 Stat. 3067, provided that: “The Director is authorized to accept planning proposals from applicants who are within .075 percentage points of the current eligibility level for the Experimental Program to Stimulate Competitive Research. Such proposals shall be reviewed by the Foundation to determine their merit for support under the Experimental Program to Stimulate Competitive Research or any other appropriate program.”

[For definitions of terms used in section 26 of Pub. L. 107-368, set out above, see section 4 of Pub. L. 107-368, set out as a note under section 1862n of this title.]

§ 1862h. Congressional statement of findings and declaration of purposes respecting scientific and technical education and training

(a) Findings

The Congress finds that—

(1) the position of the United States in the world economy faces great challenges from highly trained foreign competition;

(2) the workforce of the United States must be better prepared for the technologically advanced, competitive, global economy;

(3) the improvement of our work force’s productivity and our international economic position depend upon the strengthening of our educational efforts in science, technology, engineering, and mathematics or STEM, especially at the associate-degree level;

(4) shortages of scientifically and technically educated¹ trained workers in a wide variety of fields will best be addressed by collaboration among the Nation’s associate-degree-granting colleges and private industry to produce skilled, advanced technicians; and

(5) the National Science Foundation’s traditional role in developing model curricula, disseminating instructional materials, enhancing faculty development, and stimulating partnerships between educational institutions and in-

dustry, makes an enlarged role for the Foundation in STEM education and training particularly appropriate.

(b) Purposes

It is the purpose of sections 1862h to 1862j of this title to—

(1) improve science and technical education at associate-degree-granting colleges;

(2) improve secondary school and postsecondary curricula in STEM fields;

(3) improve the educational opportunities of postsecondary students by creating comprehensive articulation agreements and planning between 2-year and 4-year institutions; and

(4) promote outreach to secondary schools to improve STEM instruction.

(Pub. L. 102-476, § 2, Oct. 23, 1992, 106 Stat. 2297; Pub. L. 117-167, div. B, title III, § 10312(f)(1), Aug. 9, 2022, 136 Stat. 1519.)

Editorial Notes

REFERENCES IN TEXT

Sections 1862h to 1862j of this title, referred to in subsec. (b), was in the original “this Act”, meaning Pub. L. 102-476, Oct. 23, 1992, 106 Stat. 2297, known as the Scientific and Advanced-Technology Act of 1992, which enacted this section and sections 1862i and 1862j of this title and amended section 1862 of this title. For complete classification of this Act to the Code, see Short Title of 1992 Amendment note set out under section 1861 of this title and Tables.

CODIFICATION

Section was enacted as part of the Scientific and Advanced-Technology Act of 1992, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

AMENDMENTS

2022—Subsec. (a)(3). Pub. L. 117-167, § 10312(f)(1)(A)(i), substituted “science, technology, engineering, and mathematics or STEM” for “science, mathematics, and technology”.

Subsec. (a)(4). Pub. L. 117-167, § 10312(f)(1)(A)(ii), inserted “educated” before “trained”.

Subsec. (a)(5). Pub. L. 117-167, § 10312(f)(1)(A)(iii), substituted “STEM education and training” for “scientific and technical education and training”.

Subsec. (b)(2). Pub. L. 117-167, § 10312(f)(1)(B)(i), substituted “STEM fields” for “mathematics and science”.

Subsec. (b)(4). Pub. L. 117-167, § 10312(f)(1)(B)(ii), substituted “STEM instruction” for “mathematics and science instruction”.

§ 1862i. STEM education

(a) National advanced STEM education program

The Director of the National Science Foundation (hereafter in sections 1862h to 1862j of this title referred to as the “Director”) shall award grants to associate-degree-granting colleges, and consortia thereof, to assist them in providing education in advanced-technology fields and education to prepare the skilled technical workforce to meet workforce demands, and to improve the quality of their core education courses in STEM fields. The grant program shall place emphasis on the needs of students who have been in the workforce (including veterans and individuals engaged in work in the home) and on building a pathway from secondary

¹ So in original. Probably should be followed by “and”.

schools to associate-degree-granting institutions, to careers that require technical training, and shall be designed to strengthen and expand the scientific and technical education and training capabilities of associate-degree-granting colleges through such methods as—

(1) the development and study of model instructional programs in advanced-technology fields and in core STEM courses;

(2) the professional development of faculty and instructors, both full- and part-time, who provide instruction in STEM and advanced-technology¹ fields;

(3) the establishment of innovative partnership arrangements that—

(A) involve associate-degree-granting colleges and other appropriate public and private sector entities to support the advanced-technology¹ industries that drive the competitiveness of the United States in the global economy;

(B) provide for private sector donations, faculty opportunities to have short-term assignments with industry, sharing of program costs, equipment loans, and the cooperative use of laboratories, plants, and other facilities, and provision for state-of-the-art work experience opportunities for students enrolled in such programs; and

(C) encourage participation of individuals identified in section 1885a or 1885b of this title;

(4) the acquisition of state-of-the-art instrumentation essential to programs designed to prepare and upgrade students in STEM and advanced-technology fields; and

(5) the development and dissemination of instructional materials in support of improving the advanced STEM and advanced-technology¹ and training capabilities of associate-degree-granting colleges, including programs for students who are not pursuing a science degree.

(b) Centers of scientific and technical education

(1) In general

The Director shall make awards for the establishment of centers of excellence, in advanced-technology fields, among associate-degree-granting colleges. Centers shall meet one or both of the following criteria:

(A) Exceptional instructional programs in advanced-technology fields.

(B) Excellence in undergraduate STEM education.

(2) Purposes

The centers shall serve as national and regional clearinghouses and models for the benefit of both colleges and secondary schools, and shall provide seminars and programs to disseminate model curricula and model teaching methods and instructional materials to other associate-degree-granting colleges.

(3) Networks

The centers may enter into partnerships with other institutions of higher education,

nonprofit organizations, and stakeholder groups, or a consortium thereof, to develop networks to—

(A) coordinate research, training, and education activities funded by awards under subsection (a);

(B) share information and best practices; or

(C) promote collaboration between academic institutions, workforce development programs, labor organizations, and industry to communicate and meet workforce education and training needs.

(c) Articulation partnerships

(1) Partnership grants

(A) The Director shall make grants to eligible partnerships to encourage the development of career and educational pathways with multiple entry and exit points leading to credentials and degrees, and to assist students pursuing pathways in STEM fields to transition from associate-degree-granting colleges to bachelor-degree-granting² institutions, through such means as—

(i) examining curricula to develop articulation agreements that ensure that academic credit earned at the associate-degree-granting college is transferable to bachelor-degree-granting institutions;

(ii) informing teachers from the associate-degree-granting college on the specific requirements of the career and educational pathways supported by the articulation agreements; and

(iii) providing summer educational programs for students from the associate-degree-granting college to encourage such students' subsequent matriculation at bachelor-degree-granting institutions.

(B) Each eligible partnership receiving a grant under this paragraph shall, at a minimum—

(i) counsel students, including students who have been in the workforce (including veterans and individuals engaged in work in the home), about the requirements and course offerings of the bachelor-degree-granting institution;

(ii) conduct workshops and orientation sessions to ensure that students are familiar with programs, including laboratories and financial aid programs, at the bachelor-degree-granting institution;

(iii) provide students with research experiences at institutions or work sites participating in the partnership, including stipend support for students participating in summer programs or industry internships; and

(iv) provide faculty mentors for students participating in activities under clause (iii), including summer salary support for faculty mentors.

(2) Outreach grants

The Director shall make grants to associate-degree-granting colleges with outstanding STEM programs to strengthen relationships

¹So in original. The space between "advanced-" and "technology" probably should not appear.

²So in original. The space between "bachelor-" and "degree-granting" probably should not appear.

with secondary schools and, as appropriate, elementary schools, in the community served by the college by improving STEM education and encouraging the interest and aptitude of students at these schools for careers in STEM and advanced-technology fields through such means as developing articulation agreements or dual credit courses with local secondary schools, or other means as the Director determines appropriate, to enable students to satisfy entrance and course requirements at the associate-degree-granting college.

(3) Mentor training grants

The Director shall establish a program to encourage and make grants available to institutions of higher education that award associate degrees to recruit and train individuals from STEM fields to mentor students who are described in section 1885a or 1885b of this title in order to assist those students in identifying, qualifying for, and entering higher-paying technical jobs in those fields, including jobs at Federal and academic laboratories.

(d) Grants for associate degree programs in STEM fields

(1) In-demand workforce grants

The Director shall award grants to junior or community colleges to develop or improve associate degree or certificate programs in STEM fields, with respect to the region in which the respective college is located, and an in-demand industry sector or occupation.

(2) Applications

In considering applications for grants under paragraph (1), the Director shall prioritize—

(A) applications that consist of a partnership between the applying junior or community college and individual employers or an employer consortia,³ or industry or sector partnerships, and may include a university or other organization with demonstrated expertise in academic program development;

(B) applications that demonstrate current and future workforce demand in occupations directly related to the proposed associate degree or certificate program;

(C) applications that include commitments by the partnering employers or employer consortia, or industry or sector partnerships, to offer apprenticeships, internships, or other applied learning opportunities to students enrolled in the proposed associate degree or certificate program;

(D) applications that include outreach plans and goals for recruiting and enrolling women and other underrepresented populations in STEM fields in the proposed associate degree or certificate program;

(E) applications that describe how the applying junior or community college will support the collection of information and data for purposes of evaluation of the proposed associate degree or certificate program; and

(F) as appropriate, applications that apply the best practices for STEM education and technical skills education through distance learning or in a simulated work environ-

ment, as determined by research described in subsection (f); and

(G) applications that incorporate distance learning tools and approaches.

(e) Grants for STEM degree applied learning opportunities

(1) In general

The Director shall award grants to institutions of higher education partnering with private sector employers or private sector employer consortia, or industry or sector partnerships, that commit to offering apprenticeships, internships, research opportunities, or applied learning experiences to enrolled students in identified STEM baccalaureate degree programs.

(2) Purposes

Awards under this subsection may be used—

(A) to develop curricula and programs for apprenticeship, internships, research opportunities, or applied learning experiences; or

(B) to provide matching funds to incentivize partnership and participation by private sector employers and industry.

(3) Applications

In considering applications for grants under paragraph (1), the Director shall prioritize—

(A) applicants that consist of a partnership between—

(i) the applying institution of higher education; and

(ii) individual employers or an employer consortia,³ or industry or sector partnerships;

(B) applications that demonstrate current and future workforce demand in occupations directly related to the identified STEM fields;

(C) applications that include outreach plans and goals for recruiting and enrolling women and other underrepresented populations in STEM fields;

(D) applications that describe how the institution of higher education will support the collection and information of data for purposes of the evaluation of identified STEM degree programs; and

(E) applications that incorporate distance learning tools and approaches.

(f) Grants for computer-based and online STEM education courses

(1) In general

The Director of the National Science Foundation shall award competitive grants to institutions of higher education or nonprofit organizations to conduct research on student outcomes and determine best practices for STEM education and technical skills education through distance learning or in a simulated work environment.

(2) Research areas

The research areas eligible for funding under this subsection may include—

(A) post-secondary courses for technical skills development for STEM occupations;

(B) improving high-school level career and technical education in STEM subjects;

³ So in original.

(C) encouraging and sustaining interest and achievement levels in STEM subjects among women and other populations historically underrepresented in STEM studies and careers; and

(D) combining computer-based and online STEM education and skills development with traditional mentoring and other mentoring arrangements, apprenticeships, internships, and other applied learning opportunities.

(g) Coordination with other Federal departments

In carrying out this section, the Director shall consult, cooperate, and coordinate to enhance program effectiveness and to avoid duplication, with the programs and policies of other relevant Federal agencies.

(h) Funding

(1) Funding

The Director shall allocate out of amounts made available for the Education and Human Resources Directorate—

(A) up to \$5,000,000 to carry out the activities under subsection (d) for each of fiscal years 2019 through 2026, subject to the availability of appropriations;

(B) up to \$2,500,000 to carry out the activities under subsection (e) for each of fiscal years 2019 through 2026, subject to the availability of appropriations; and

(C) not less than \$3,000,000 to carry out the activities under subsection (f) for each of fiscal years 2019 through 2026, subject to the availability of appropriations.

(2) Limitation on funding

Amounts made available to carry out subsections (d), (e), and (f) shall be derived from amounts appropriated or otherwise made available to the National Science Foundation.

(3) Limitation on funding

To qualify for a grant under this section, an associate-degree-granting college, or consortium thereof, shall provide assurances adequate to the Director that it will not decrease its level of spending of funds from non-Federal sources on advanced scientific and technical education and training programs.

(i) Functions of Director

In carrying out sections 1862h to 1862j of this title, the Director shall—

(1) award grants on a competitive, merit basis;

(2) ensure an equitable geographic distribution of grant awards;

(3) establish and maintain a readily accessible inventory of the programs assisted under sections 1862h to 1862j of this title; and

(4) designate an officer of the National Science Foundation to serve as a liaison with associate-degree-granting institutions for the purpose of enhancing the role of such institutions in the activities of the Foundation.

(j) Definitions

As used in this section—

(1) the term advanced-technology⁴ includes technological fields such as advanced manu-

facturing, agricultural-, biological- and chemical-technologies, energy and environmental technologies, engineering technologies, information technologies, micro and nano-technologies, cybersecurity technologies, geospatial technologies, and new, emerging technology areas;

(2) the term “associate-degree-granting college” means an institution of higher education (as determined under section 101 of the Higher Education Act of 1965 [20 U.S.C. 1001]) that—

(A) is a nonprofit institution that offers a 2-year associate-degree program or a 2-year certificate program; or

(B) is a proprietary institution that offers a 2-year associate-degree program;

(3) the term “bachelor-degree-granting institution” means an institution of higher education (as determined under section 101 of the Higher Education Act of 1965 [20 U.S.C. 1001]) that offers a baccalaureate degree program;

(4) the term “eligible partnership” means one or more associate-degree-granting colleges in partnership with one or more other entities;

(5) the term “in-demand industry sector or occupation” has the meaning given the term in section 3102 of title 29;

(6) the term “junior or community college” has the meaning given the term in section 312 of the Higher Education Act of 1965 (20 U.S.C. 1058);

(7) the term “region” means a labor market area, as that term is defined in section 3102 of title 29;

(8) the terms “science, technology, engineering, or mathematics” or “STEM” mean science, technology, engineering, and mathematics, including computer science and cybersecurity; and

(9) the term skilled technical workforce⁴ has the meaning given such term in section 4(b) of the Innovations in Mentoring, Training, and Apprenticeships Act (42 U.S.C. 1862p).⁵

(Pub. L. 102-476, §3, Oct. 23, 1992, 106 Stat. 2297; Pub. L. 105-244, title I, §102(a)(13)(B), Oct. 7, 1998, 112 Stat. 1620; Pub. L. 107-368, §21(a), (b), Dec. 19, 2002, 116 Stat. 3064; Pub. L. 110-69, title VII, §7031(a), Aug. 9, 2007, 121 Stat. 710; Pub. L. 115-402, §3, Dec. 31, 2018, 132 Stat. 5344; Pub. L. 116-283, div. E, title LIV, §5401(e)(3)(A), div. H, title XCIV, §9405(b), Jan. 1, 2021, 134 Stat. 4543, 4812; Pub. L. 117-167, div. B, title III, §§10312(b), (f)(2), 10361(d), Aug. 9, 2022, 136 Stat. 1517, 1519, 1567.)

Editorial Notes

REFERENCES IN TEXT

Sections 1862h to 1862j of this title, referred to in subsecs. (a) and (i), was in the original “this Act”, meaning Pub. L. 102-476, Oct. 23, 1992, 106 Stat. 2297, known as the Scientific and Advanced-Technology Act of 1992, which enacted this section and sections 1862h and 1862j of this title and amended section 1862 of this title. For complete classification of this Act to the Code, see Short Title of 1992 Amendment note set out under section 1861 of this title and Tables.

Section 4(b) of the Innovations in Mentoring, Training, and Apprenticeships Act, referred to in subsec.

⁴So in original. The defined term probably should be within quotation marks.

⁵See References in Text note below.

(j)(9), is section 4(b) of Pub. L. 115-402, which is set out as a note under section 1862p of this title.

CODIFICATION

Section was enacted as part of the Scientific and Advanced-Technology Act of 1992, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

AMENDMENTS

2022—Pub. L. 117-167, §10312(f)(2)(A), substituted “STEM education” for “Scientific and technical education” in section catchline.

Subsec. (a). Pub. L. 117-167, §10312(f)(2)(B)(ii), in introductory provisions, inserted “and education to prepare the skilled technical workforce to meet workforce demands” before “; and to improve” and substituted “core education courses in STEM fields” for “core education courses in science and mathematics” and “(including veterans and individuals engaged in work in the home) and on building a pathway from secondary schools to associate-degree-granting institutions, to careers that require technical training, and shall be designed” for “(including work in the home), and shall be designed”.

Pub. L. 117-167, §10312(f)(2)(B)(i), substituted “STEM education” for “scientific and technical education” in heading.

Subsec. (a)(1). Pub. L. 117-167, §10312(f)(2)(B)(iii), inserted “and study” after “development” and substituted “core STEM courses” for “core science and mathematics courses”.

Subsec. (a)(2). Pub. L. 117-167, §10312(f)(2)(B)(iv), substituted “STEM and advanced- technology fields” for “science, mathematics, and advanced-technology fields”.

Subsec. (a)(3)(A). Pub. L. 117-167, §10312(f)(2)(B)(v), inserted “to support the advanced- technology industries that drive the competitiveness of the United States in the global economy” before semicolon at end.

Subsec. (a)(4). Pub. L. 117-167, §10312(f)(2)(B)(vi), which directed substitution of “STEM and advanced-technology fields” for “scientific and advanced- technology fields”, was executed by making the substitution for “scientific and advanced-technology fields” to reflect the probable intent of Congress.

Subsec. (a)(5). Pub. L. 117-167, §10312(f)(2)(B)(vii), substituted “advanced STEM and advanced- technology” for “advanced scientific and technical education”.

Subsec. (b). Pub. L. 117-167, §10312(b), amended subsec. (b) generally. Prior to amendment, text read as follows: “The Director shall award grants for the establishment of centers of excellence, not to exceed 12 in number, among associate-degree-granting colleges. Centers shall meet one or both of the following criteria: “(1) Exceptional instructional programs in advanced-technology fields.

“(2) Excellence in undergraduate education in mathematics and science.

The centers shall serve as national and regional clearinghouses and models for the benefit of both colleges and secondary schools, and shall provide seminars and programs to disseminate model curricula and model teaching methods and instructional materials to other associate-degree-granting colleges in the geographic region served by the center.”

Subsec. (c)(1)(A). Pub. L. 117-167, §10312(f)(2)(C)(i)(I)(aa), substituted “to encourage the development of career and educational pathways with multiple entry and exit points leading to credentials and degrees, and to assist students pursuing pathways in STEM fields to transition from associate-degree-granting colleges to bachelor- degree-granting institutions, through such means as—” for “to encourage students to pursue bachelor degrees in mathematics, science, engineering, or technology, and to assist students pursuing bachelor degrees in mathematics, science, engineering, or technology to make the transition from associate-degree-granting colleges to bach-

elor-degree-granting institutions, through such means as—” in introductory provisions.

Subsec. (c)(1)(A)(i). Pub. L. 117-167, §10312(f)(2)(C)(i)(I)(bb), substituted “to develop articulation agreements that ensure” for “to ensure”.

Subsec. (c)(1)(A)(ii). Pub. L. 117-167, §10312(f)(2)(C)(i)(I)(cc), substituted “the career and educational pathways supported by the articulation agreements” for “courses at the bachelor-degree-granting institution”.

Subsec. (c)(1)(B). Pub. L. 117-167, §10312(f)(2)(C)(i)(II)(cc), struck out concluding provisions which read as follows: “Funds used by eligible partnerships to carry out clauses (i) and (ii) shall be from non-Federal sources. In-cash and in-kind resources used by eligible partnerships to carry out clauses (i) and (ii) shall not be considered to be contributions for purposes of applying subsection (i)(3).”

Subsec. (c)(1)(B)(i). Pub. L. 117-167, §10312(f)(2)(C)(i)(II)(aa), inserted “veterans and individuals engaged in” before “work in the home”.

Subsec. (c)(1)(B)(iii). Pub. L. 117-167, §10312(f)(2)(C)(i)(II)(bb), substituted “institutions or work sites” for “bachelor’s-degree-granting institutions” and inserted “or industry internships” after “summer programs”.

Subsec. (c)(1)(C). Pub. L. 117-167, §10312(f)(2)(C)(i)(III), struck out subpar. (C) which read as follows: “Any institution participating in a partnership that receives a grant under this paragraph shall be ineligible to receive assistance under part B of title I of the Higher Education Act of 1965 for the duration of the grant received under this paragraph.”

Subsec. (c)(2). Pub. L. 117-167, §10312(f)(2)(C)(ii), substituted “outstanding STEM programs to strengthen relationships with secondary schools and, as appropriate, elementary schools, in the community served by the college by improving STEM education and encouraging the interest and aptitude of students at these schools for careers in STEM and advanced-technology fields through such means as developing articulation agreements or dual credit courses with local secondary schools, or other means as the Director determines appropriate, to enable students” for “outstanding mathematics and science programs to strengthen relationships with secondary schools in the community served by the college by improving mathematics and science education and encouraging the interest and aptitude of secondary school students for careers in science and advanced-technology fields through such means as developing agreements with local educational agencies to enable students”.

Subsec. (c)(3). Pub. L. 117-167, §10312(f)(2)(C)(iii), struck out subpar. (A) designation before “establish a program”, substituted “shall” for “shall—”, “STEM fields” for “the fields of science, technology, engineering, and mathematics”, and “; including jobs at Federal and academic laboratories.” for “; and”, and struck out subpar. (B) which read as follows: “make grants available to associate-degree-granting colleges to carry out the program identified in subsection (A).”

Subsec. (d)(2)(F). Pub. L. 117-167, §10312(f)(2)(D), added subpar. (F).

Subsec. (d)(2)(G). Pub. L. 117-167, §10361(d)(1), added subpar. (G).

Subsec. (e)(3)(E). Pub. L. 117-167, §10361(d)(2), added subpar. (E).

Subsec. (g). Pub. L. 117-167, §10312(f)(2)(E), struck out at end “In carrying out subsection (c), the Director shall coordinate activities with programs receiving assistance under part B of title I of the Higher Education Act of 1965.

Subsec. (h)(1)(A). Pub. L. 117-167, §10312(f)(2)(F)(i), substituted “2026” for “2022”.

Subsec. (h)(1)(B). Pub. L. 117-167, §10312(f)(2)(F)(ii), substituted “2026” for “2022”.

Subsec. (h)(1)(C). Pub. L. 117-167, §10312(f)(2)(F)(iii), substituted “not less than \$3,000,000” for “up to \$2,500,000” and “2026” for “2022”.

Subsec. (i)(3) to (5). Pub. L. 117-167, §10312(f)(2)(G), redesignated pars. (4) and (5) as (3) and (4), respectively,

and struck out former par. (3) which read as follows: “ensure that an applicant for a grant awarded under subsection (a), (b), or (c)(1) will make an in-cash or in-kind contribution in an amount equal to at least 25 percent of the cost of the program, and for a grant awarded under subsection (c)(2) will make an in-cash or in-kind contribution in an amount at least equal to the amount of the grant award;”.

Subsec. (j)(1). Pub. L. 117-167, §10312(f)(2)(H)(i), added par. (1) and struck out former par. (1) which read as follows: “the term ‘advanced-technology’ includes advanced technical activities such as the modernization, miniaturization, integration, and computerization of electronic, hydraulic, pneumatic, laser, nuclear, chemical, telecommunication, fiber optic, robotic, and other technological applications to enhance productivity improvements in manufacturing, communication, transportation, commercial, and similar economic and national security activities;”.

Subsec. (j)(4). Pub. L. 117-167, §10312(f)(2)(H)(ii), which directed substitution of “other entities” for “separate bachelor-degree-granting institutions”, was executed by making the substitution for “separate bachelor-degree-granting institutions” to reflect the probable intent of Congress.

Subsec. (j)(7). Pub. L. 117-167, §10312(f)(2)(H)(iii), (iv), redesignated par. (8) as (7) and struck out former par. (7) which read as follows: “the term ‘local educational agency’ has the meaning given such term in section 2891(12) of title 20.”

Subsec. (j)(8). Pub. L. 117-167, §10312(f)(2)(H)(vi)(I), substituted “science, technology, engineering, or mathematics” for “mathematics, science, engineering, or technology”.

Pub. L. 117-167, §10312(f)(2)(H)(iv), redesignated par. (9) as (8). Former par. (8) redesignated (7).

Subsec. (j)(9). Pub. L. 117-167, §10312(f)(2)(H)(v), (vi)(II), (vii), added par. (9).

Pub. L. 117-167, §10312(f)(2)(H)(iv), redesignated par. (9) as (8).

2021—Subsec. (b). Pub. L. 116-283, §5401(e)(3)(A), substituted “12” for “10” in introductory provisions.

Subsec. (j)(9). Pub. L. 116-283, §9405(b), inserted “and cybersecurity” after “computer science”.

2018—Subsec. (a)(3)(A). Pub. L. 115-402, §3(3), substituted semicolon for comma at end.

Subsec. (c)(1)(B). Pub. L. 115-402, §3(4), which directed substitution of “subsection (i)(3)” for “subsection (f)(3)” in cl. (iv), was executed by making the substitution in concluding provisions of subpar. (B) following cl. (iv), to reflect the probable intent of Congress.

Subsecs. (d) to (f). Pub. L. 115-402, §3(2), added subsecs. (d) to (f). Former subsecs. (d) to (f) redesignated (g) to (i), respectively.

Subsec. (g). Pub. L. 115-402, §3(1), redesignated subsec. (d) as (g). Former subsec. (g) redesignated (j).

Subsec. (h). Pub. L. 115-402, §3(5), substituted “Funding” for “Limitation on funding” in heading, designated existing provisions as par. (3) and inserted heading, and added pars. (1) and (2).

Pub. L. 115-402, §3(1), redesignated subsec. (e) as (h).

Subsec. (i). Pub. L. 115-402, §3(1), redesignated subsec. (f) as (i).

Subsec. (j). Pub. L. 115-402, §3(1), redesignated subsec. (g) as (j).

Subsec. (j)(5) to (9). Pub. L. 115-402, §3(6), added pars. (5) and (6), redesignated former par. (5) as (7), and added pars. (8) and (9).

2007—Subsec. (a)(3)(A). Pub. L. 110-69, §7031(a)(1)(A), which directed striking out “and” after the semicolon, was executed by striking out “and” after the comma, to reflect the probable intent of Congress.

Subsec. (a)(3)(B), (C). Pub. L. 110-69, §7031(a)(1)(B), (C), substituted “; and” for semicolon in subpar. (B) and added subpar. (C).

Subsec. (c)(3). Pub. L. 110-69, §7031(a)(2), added par. (3).

2002—Subsec. (a). Pub. L. 107-368, §21(a)(1), inserted “, and to improve the quality of their core education courses in science and mathematics” after “education

in advanced-technology fields” in introductory provisions.

Subsec. (a)(1). Pub. L. 107-368, §21(a)(2), inserted “and in core science and mathematics courses” after “advanced-technology fields”.

Subsec. (a)(2). Pub. L. 107-368, §21(a)(3), substituted “who provide instruction in science, mathematics, and advanced-technology fields” for “in advanced-technology fields”.

Subsec. (c)(1)(B)(iii), (iv). Pub. L. 107-368, §21(b), added cls. (iii) and (iv).

1998—Subsec. (g)(2), (3). Pub. L. 105-244 substituted “section 101 of the Higher Education Act of 1965” for “section 1201(a) of the Higher Education Act of 1965 (20 U.S.C. 1141(a))”.

Statutory Notes and Related Subsidiaries

EFFECTIVE DATE OF 1998 AMENDMENT

Amendment by Pub. L. 105-244 effective Oct. 1, 1998, except as otherwise provided in Pub. L. 105-244, see section 3 of Pub. L. 105-244, set out as a note under section 1001 of Title 20, Education.

FINDINGS

Pub. L. 115-402, §2, Dec. 31, 2018, 132 Stat. 5343, provided that: “Congress finds the following:

“(1) To remain competitive in the global economy, foster greater innovation, and provide a foundation for shared prosperity, the United States needs a workforce with the right mix of skills to meet the diverse needs of the economy.

“(2) Evidence indicates that the returns on investments in technical skills in the labor market are strong when students successfully complete their education and gain credentials sought by employers.

“(3) The responsibility for developing and sustaining a skilled technical workforce is fragmented across many groups, including educators, students, workers, employers, Federal, State, and local governments, civic associations, and other stakeholders. Such groups need to be able to coordinate and cooperate successfully with each other.

“(4) Coordination among students, community colleges, secondary and post-secondary institutions, and employers would improve educational outcomes.

“(5) Promising experiments currently underway may guide innovation and reform, but scalability of some of those experiments has not yet been tested.

“(6) Evidence suggests that integration of academic education, technical skills development, and hands-on work experience improves outcomes and return on investment for students in secondary and post-secondary education and for skilled technical workers in different career stages.

“(7) Outcomes show that mentoring can increase STEM student engagement and the rate of completion of STEM post-secondary degrees.”

§ 1862j. Authorization of appropriations

There are authorized to be appropriated to the Director for carrying out sections 2 through 4 \$150,000,000 for each of fiscal years 2023 through 2027.

(Pub. L. 102-476, §5, Oct. 23, 1992, 106 Stat. 2301; Pub. L. 117-167, div. B, title III, §10312(f)(3), Aug. 9, 2022, 136 Stat. 1522.)

Editorial Notes

REFERENCES IN TEXT

Sections 2 through 4, referred to in text, is sections 2 to 4 of Pub. L. 102-476, which enacted sections 1862h and 1862i of this title and amended section 1862 of this title, respectively.

CODIFICATION

Section was enacted as part of the Scientific and Advanced-Technology Act of 1992, and not as part of the