STEM Education Act of 2015

[Public Law 114–59]

[As Amended Through P.L. 117–167, Enacted August 9, 2022]

[Currency: This publication is a compilation of the text of Public Law 114-59. It was last amended by the public law listed in the As Amended Through note above and below at the bottom of each page of the pdf version and reflects current law through the date of the enactment of the public law listed at https://www.govinfo.gov/app/collection/comps/]

[Note: While this publication does not represent an official version of any Federal statute, substantial efforts have been made to ensure the accuracy of its contents. The official version of Federal law is found in the United States Statutes at Large and in the United States Code. The legal effect to be given to the Statutes at Large and the United States Code is established by statute (1 U.S.C. 112, 204).]

AN ACT To define STEM education to include computer science, and to support existing STEM education programs at the National Science Foundation.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. [42 U.S.C. 1861 note] SHORT TITLE.

This Act may be cited as the "STEM Education Act of 2015".

SEC. 2. [42 U.S.C. 6621 note] DEFINITION OF STEM EDUCATION.

For purposes of carrying out STEM education activities at the National Science Foundation, the Department of Energy, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Institute of Standards and Technology, and the Environmental Protection Agency, the term "STEM education" means education in the subjects of science, technology, engineering, and mathematics, including computer science.

SEC. 3. [42 U.S.C. 1862q] INFORMAL STEM EDUCATION.

(a) GRANTS.—The Director of the National Science Foundation, through the Directorate for Education and Human Resources, shall continue to award competitive, merit-reviewed grants to support—

(1) research and development of innovative out-of-school STEM learning and emerging STEM learning environments in order to improve STEM learning outcomes and engagement in STEM;

(2) research that advances the field of informal STEM education;

(3) a national partnership of institutions involved in informal STEM learning; and

(4) the integration of art and design in STEM educational programs.

(b) USES OF FUNDS.—Activities supported by grants under this section may encompass a single STEM discipline, multiple STEM disciplines, or integrative STEM initiatives and shall include—

(1) research and development that improves our understanding of learning and engagement in informal environments, including the role of informal environments in broadening participation in STEM;

(2) design and testing of innovative STEM learning models, programs, and other resources for informal learning environments to improve STEM learning outcomes and increase engagement for K-12 students, K-12 teachers, and the general public, including design and testing of the scalability of models, programs, and other resources;

(3) fostering on-going partnerships between institutions involved in informal STEM learning, institutions of higher education, and education research centers;

(4) developing, and making available informal STEM education activities and educational materials; and

(5) design and testing of programming that integrates art and design in STEM education to promote creativity and innovation.

(c) PREK–12 INFORMAL STEM.—

(1) IN GENERAL.—The Director of the National Science Foundation shall make awards, through existing programs where appropriate to institutions of higher education and nonprofit organizations (or consortia of such intuitions or organizations) on a merit-reviewed, competitive basis for research on effective approaches to engaging students in PreK–12, including students from groups historically underrepresented in STEM and rural students.

(2) PURPOSES.—The purposes of this subsection are to—

(A) provide effective, compelling, and engaging means for teaching and reinforcing fundamental STEM concepts to PreK–12 students;

(B) expand the STEM workforce pipeline by increasing the number of youth in the United States exposed to STEM from an early age and encourage them to pursue careers in STEM-related fields; and

(C) broaden participation of groups historically underrepresented in STEM and rural students, in the STEM workforce.

(3) USE OF FUNDS.—

(A) IN GENERAL.—Awards made under this subsection shall support research and development on innovative before-school, after-school, out-of-school, or summer activities that are designed to encourage interest, engagement, and skills development in STEM, including for students from groups historically underrepresented in STEM and rural students.

(B) PERMITTED ACTIVITIES.—The research and development activities described in subparagraph (A) may include—

(i) the provision of programming described in such subparagraph for the purpose of research described in such subparagraph;

(ii) the use of a variety of engagement methods, including cooperative and hands-on learning;

(iii) exposure of students to role models in the fields of STEM and near-peer mentors;

(iv) training of informal learning educators, youth-serving professionals, and volunteers who lead informal STEM programs in using evidence-based methods consistent with the target student population being served;

(v) education of students on the relevance and significance of STEM careers, provision of academic advice and assistance, and activities designed to help students make real-world connections to STEM content;

(vi) the preparation of students to attend events, competitions, and academic programs that provide content expertise and encourage career exposure in STEM, which may include the purchase of parts and supplies needed to prepare for participation in such competitions;

(vii) activities designed to engage parents and families of students in PreK–12 in STEM;

(viii) innovative strategies to engage students, such as using leadership skills and outcome measures to impart youth with the confidence to pursue STEM coursework and academic study;

(ix) coordination with STEM-rich environments, including other nonprofit, nongovernmental organizations, out-of- classroom settings, institutions of higher education, vocational facilities, corporations, museums, or science centers; and

(x) the acquisition of instructional materials or technology-based tools to conduct applicable award activity.

(4) APPLICATION.—An applicant seeking funding under this subsection shall submit an application at such time, in such manner, and containing such information as may be required by the Director. Applications that include or partner with a nonprofit, nongovernmental organization that has extensive experience and expertise in increasing the participation of students in PreK–12 in STEM are encouraged. At a minimum, the application shall include the following:

(A) A description of the target audience to be served by the research activity or activities for which such funding is sought.

(B) A description of the process for recruitment and selection of students to participate in such activities.

(C) A description of how such activity or activities may inform programming that engages students in PreK–12 in STEM.

(D) A description of how such activity or activities may inform programming that promotes student academic achievement in STEM.

(E) An evaluation plan that includes, at a minimum, the use of outcome-oriented measures to determine the impact and efficacy of programming being researched.

(5) EVALUATIONS.—Each recipient of an award under this subsection shall provide, at the conclusion of every year during which the award funds are received, a report in a form prescribed by the Director.

(6) ENCOURAGE APPLICATIONS.—In making awards under this subsection, the Director shall encourage applications which, for the purpose of the activity or activities funded through the award, are from or include eligible nonprofit programs serving students that attend elementary schools or secondary schools (including high schools) that—

(A) are implementing comprehensive support and improvement activities or targeted support and improvement activities under paragraph (1) or (2) of section 1111(d) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311(d)); or

(B) serve high percentages of students who are eligible for a free or reduced-price lunch under the Richard B. Russell National School Lunch Act (42 U.S.C. 1751 et seq.) (which, in the case of a high school, may be calculated using comparable data from the schools that feed into the high school).

(7) ACCOUNTABILITY AND DISSEMINATION.—

(A) EVALUATION REQUIRED.—The Director shall evaluate the activities established under this subsection. Such evaluation shall—

(i) use a common set of benchmarks and tools to assess the results of research conducted under such awards; and

(ii) to the extent practicable, integrate the findings of the research resulting from the activity or activities funded through the award with the current research on serving students with respect to the pursuit of degrees or careers in STEM, including underrepresented and rural students, in PreK–12.

(B) REPORT ON EVALUATIONS.—Not later than 180 days after the completion of the evaluation under subparagraph (A), the Director shall submit to Congress and make widely available to the public a report that includes—

(i) the results of the evaluation; and

(ii) any recommendations for administrative and legislative action that could optimize the effectiveness of the program under this subsection.

(8) COORDINATION.—In carrying out this subsection, the Director shall, for purposes of enhancing program effectiveness and avoiding duplication of activities, consult, and coordinate with other relevant Federal agencies.

SEC. 4. NOYCE SCHOLARSHIP PROGRAM AMENDMENTS.

(a) AMENDMENTS.—Section 10A of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-1a) is amended—

(1) in subsection (a)(2)(B), by inserting "or bachelor's" after "master's";

(2) in subsection (c)—

(A) by striking "and" at the end of paragraph (2)(B);

(B) in paragraph (3)—

(i) by inserting "for teachers with master's degrees in their field" after "Teaching Fellowships"; and

(ii) by striking the period at the end of subparagraph (B) and inserting "; and"; and

(C) by adding at the end the following new paragraph:

"(4) in the case of National Science Foundation Master Teaching Fellowships for teachers with bachelor's degrees in their field and working toward a master's degree—

"(A) offering academic courses leading to a master's degree and leadership training to prepare individuals to become master teachers in elementary and secondary schools; and

"(B) offering programs both during and after matriculation in the program for which the fellowship is received to enable fellows to become highly effective mathematics and science teachers, including mentoring, training, induction, and professional development activities, to fulfill the service requirements of this section, including the requirements of subsection (e), and to exchange ideas with others in their fields.";

(3) in subsections (e) and (f), by striking "subsection (g)" each place it appears, and inserting "subsection (h)";

(4) by redesignating subsections (g) through (i) as subsections (h) through (j), respectively; and

(5) by inserting after subsection (f) the following new subsection:

"(g) SUPPORT FOR MASTER TEACHING FELLOWS WHILE ENROLLED IN A MASTER'S DEGREE PROGRAM.—A National Science Foundation Master Teacher Fellow may receive a maximum of 1 year of fellowship support while enrolled in a master's degree program as described in subsection (c)(4)(A), except that if such fellow is enrolled in a part-time program, such amount shall be prorated according to the length of the program.".

(b) DEFINITION.—Section 10(i)(5) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-1(i)(5)) is amended by inserting "computer science," after "means a science,".