

H. R. 5509

# One Hundred Fifteenth Congress of the United States of America

AT THE SECOND SESSION

*Begun and held at the City of Washington on Wednesday,  
the third day of January, two thousand and eighteen*

## An Act

To direct the National Science Foundation to provide grants for research about STEM education approaches and the STEM-related workforce, and for other purposes.

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

### SECTION 1. SHORT TITLE.

This Act may be cited as the “Innovations in Mentoring, Training, and Apprenticeships Act”.

### SEC. 2. FINDINGS.

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.

**SEC. 3. NATIONAL SCIENCE FOUNDATION STEM INNOVATION AND APPRENTICESHIP GRANTS.**

Section 3 of the Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862i) is amended—

(1) by redesignating subsections (d) through (g) as subsections (g) through (j), respectively;

(2) by inserting after subsection (c) the following:

“(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, 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; and

“(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.

“(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,  
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 underrep-  
resented populations in STEM fields; and

“(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.

“(f) GRANTS FOR COMPUTER-BASED AND ONLINE STEM EDU-  
CATION 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 develop-  
ment for STEM occupations;

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

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

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

(3) in subsection (a)(3)(A), by striking the comma and  
inserting a semicolon;

(4) in subsection (c)(1)(B)(iv), by striking “subsection (f)(3)”  
and inserting “subsection (i)(3)”;

(5) in subsection (h), as redesignated—

(A) in the heading, by striking “LIMITATION ON  
FUNDING” and inserting “FUNDING”;

(B) by inserting “(3) LIMITATION ON FUNDING.—” before  
“To qualify” and indenting appropriately; and

(C) by inserting before paragraph (3), as redesignated,  
the following:

“(1) FUNDING.—The Director shall allocate out of amounts  
made available for the Education and Human Resources Direc-  
torate—

“(A) up to \$5,000,000 to carry out the activities under  
subsection (d) for each of fiscal years 2019 through 2022,  
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 2022,  
subject to the availability of appropriations; and

“(C) up to \$2,500,000 to carry out the activities under subsection (f) for each of fiscal years 2019 through 2022, 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.”; and

(6) in subsection (j), as redesignated—

(A) in paragraph (4), by striking “; and” and inserting a semicolon;

(B) by redesignating paragraph (5) as paragraph (7); and

(C) by inserting after paragraph (4) the following:

“(5) the term ‘in-demand industry sector or occupation’ has the meaning given the term in section 3 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3102);

“(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);”;

(D) by adding at the end the following:

“(8) the term ‘region’ means a labor market area, as that term is defined in section 3 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3102); and

“(9) the terms ‘mathematics, science, engineering, or technology’ or ‘STEM’ mean science, technology, engineering, and mathematics, including computer science.”.

#### SEC. 4. RESEARCH ON EFFICIENCY OF SKILLED TECHNICAL LABOR MARKETS.

(a) EFFICIENCY OF SKILLED TECHNICAL LABOR MARKETS.—The Director of the National Science Foundation, working through the Directorate of Social, Behavioral & Economic Sciences, in coordination with the Secretary of Labor, shall support research on labor market analysis innovations, data and information sciences, electronic information tools and methodologies, and metrics.

(b) SKILLED TECHNICAL WORKFORCE.—

(1) REVIEW.—The National Center for Science and Engineering Statistics of the National Science Foundation shall consult and coordinate with other relevant Federal statistical agencies, including the Institute of Education Sciences of the Department of Education, and the Committee on Science, Technology, Engineering, and Mathematics Education of the National Science and Technology Council established under section 101 of the America COMPETES Act of 2010 (Public Law 111–358), to explore the feasibility of expanding its surveys to include the collection of objective data on the skilled technical workforce.

(2) REPORT.—Not later than 1 year after the date of enactment of this Act, the Director of the National Science Foundation shall submit to Congress a report on the progress made in expanding the National Center for Science and Engineering Statistics surveys to include the skilled technical workforce, including a plan for multi-agency collaboration to improve data collection and reporting of data on the skilled technical workforce.

(3) DEFINITION OF SKILLED TECHNICAL WORKFORCE.—The term “‘skilled technical workforce’” means workers with high

school diplomas and two-year technical training or certifications who employ significant levels of STEM knowledge in their jobs.

**SEC. 5. EVALUATION AND REPORT.**

(a) EVALUATION.—

(1) IN GENERAL.—Not later than 2 years after the date of enactment of this Act, the Director of the National Science Foundation shall evaluate the grant programs established under subsections (d), (e), and (f) of section 3 of the Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862i), as amended by this Act.

(2) REQUIREMENTS.—In conducting the evaluation under paragraph (1), the Director shall—

(A) use a common set of benchmarks and assessment tools to identify best practices and materials developed or demonstrated by the research conducted pursuant to such grants and programs under subsection (f) of that section;

(B) include an assessment of the effectiveness of the grant programs in expanding apprenticeships, internships, and other applied learning opportunities offered by employers in conjunction with junior or community colleges, or institutions of higher education, as applicable;

(C) assess the number of students who participated in the grant programs; and

(D) assess the percentage of students participating in the grant programs who successfully complete their education programs.

(b) REPORT ON EVALUATIONS.—Not later than 180 days after the date the evaluation under subsection (a) is complete, the Director of the National Science Foundation shall submit to Congress and the Secretary of Education, and make widely available to the public, a report on the results of the evaluation, including any recommendations for legislative action that could optimize the effectiveness of the grant programs.

*Speaker of the House of Representatives.*

*Vice President of the United States and  
President of the Senate.*