

117TH CONGRESS  
1ST SESSION

# S. 2274

To authorize the Director of the Cybersecurity and Infrastructure Security Agency to establish an apprenticeship program and to establish a pilot program on cybersecurity training for veterans and members of the Armed Forces transitioning to civilian life, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

JUNE 24, 2021

Ms. HASSAN (for herself and Mr. CORNYN) introduced the following bill; which was read twice and referred to the Committee on Homeland Security and Governmental Affairs

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## A BILL

To authorize the Director of the Cybersecurity and Infrastructure Security Agency to establish an apprenticeship program and to establish a pilot program on cybersecurity training for veterans and members of the Armed Forces transitioning to civilian life, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Federal Cybersecurity  
5 Workforce Expansion Act”.

1 **SEC. 2. FINDINGS.**

2 Congress finds that—

3 (1) the need for qualified cybersecurity per-  
4 sonnel is greater than ever, as demonstrated by the  
5 recent SolarWinds breach and the growing spate of  
6 ransomware attacks on critical infrastructure enti-  
7 ties and State and local governments;

8 (2) the Federal Government is facing a short-  
9 age of qualified cybersecurity personnel, as noted in  
10 a March 2019 Government Accountability Office re-  
11 port on critical staffing needs in the Federal cyber-  
12 security workforce;

13 (3) there is a national shortage of qualified cy-  
14 bersecurity personnel, and according to CyberSeek, a  
15 project supported by the National Initiative for Cy-  
16 bersecurity Education within the National Institute  
17 of Standards and Technology, there are approxi-  
18 mately 500,000 cybersecurity job openings around  
19 the United States;

20 (4) in May 2021, the Department of Homeland  
21 Security announced that the Department was initi-  
22 ating a 60 day sprint to hire 200 cybersecurity per-  
23 sonnel across the Department, with 100 of those  
24 hires for the Cybersecurity and Infrastructure Secu-  
25 rity Agency, to address a cybersecurity workforce  
26 shortage; and

1 (5) the Federal Government needs to—

2 (A) expand the cybersecurity workforce  
3 pipeline of the Federal Government to  
4 sustainably close a Federal cybersecurity work-  
5 force shortage; and

6 (B) work cooperatively with the private  
7 sector and State and local government authori-  
8 ties to expand opportunities for new cybersecu-  
9 rity professionals.

10 **SEC. 3. CYBERSECURITY AND INFRASTRUCTURE SECURITY**  
11 **APPRENTICESHIP PROGRAM.**

12 (a) IN GENERAL.—Subtitle A of title XXII of the  
13 Homeland Security Act (6 U.S.C. 651 et seq.) is amended  
14 by adding at the end the following:

15 **“SEC. 2218. APPRENTICESHIP PROGRAM.**

16 **“(a) DEFINITIONS.—**In this section:

17 **“(1) AREA CAREER AND TECHNICAL EDU-**  
18 **CATION SCHOOL.—**The term ‘area career and tech-  
19 nical education school’ has the meaning given the  
20 term in section 3 of the Carl D. Perkins Career and  
21 Technical Education Act of 2006 (20 U.S.C. 2302).

22 **“(2) COMMUNITY COLLEGE.—**The term ‘com-  
23 munity college’ means a public institution of higher  
24 education at which the highest degree that is pre-

1 dominantly awarded to students is an associate’s de-  
 2 gree, including—

3 “(A) a 2-year Tribal College or University,  
 4 as defined in section 316 of the Higher Edu-  
 5 cation Act of 1965 (20 U.S.C. 1059c); and

6 “(B) a public 2-year State institution of  
 7 higher education.

8 “(3) CYBERSECURITY WORK ROLES.—The term  
 9 ‘cybersecurity work roles’ means the work roles out-  
 10 lined in the National Initiative for Cybersecurity  
 11 Education Cybersecurity Workforce Framework  
 12 (NIST Special Publication 800–181), or any suc-  
 13 cessor framework.

14 “(4) EDUCATION AND TRAINING PROVIDER.—  
 15 The term ‘education and training provider’ means—

16 “(A) an area career and technical edu-  
 17 cation school;

18 “(B) an early college high school;

19 “(C) an educational service agency;

20 “(D) a high school;

21 “(E) a local educational agency or State  
 22 educational agency;

23 “(F) a Tribal educational agency, Tribally  
 24 controlled college or university, or Tribally con-

1 trolled postsecondary career and technical insti-  
2 tution;

3 “(G) a postsecondary educational institu-  
4 tion;

5 “(H) a minority-serving institution;

6 “(I) a provider of adult education and lit-  
7 eracy activities under the Adult Education and  
8 Family Literacy Act (29 U.S.C. 3271 et seq.);

9 “(J) a local agency administering plans  
10 under title I of the Rehabilitation Act of 1973  
11 (29 U.S.C. 720 et seq.), other than section 112  
12 or part C of that title (29 U.S.C. 732, 741);

13 “(K) a related instruction provider, includ-  
14 ing a qualified intermediary acting as a related  
15 instruction provider as approved by a registra-  
16 tion agency;

17 “(L) a Job Corps center, as defined in sec-  
18 tion 142 of the Workforce Innovation and Op-  
19 portunity Act (29 U.S.C. 3192); or

20 “(M) a consortium of entities described in  
21 any of subparagraphs (A) through (L).

22 “(5) ELIGIBLE ENTITY.—

23 “(A) IN GENERAL.—The term ‘eligible en-  
24 tity’ means—

25 “(i) a program sponsor;

1           “(ii) a State workforce development  
2 board or State workforce agency, or a local  
3 workforce development board or local  
4 workforce development agency;

5           “(iii) an education and training pro-  
6 vider;

7           “(iv) if the applicant is in a State  
8 with a State apprenticeship agency, such  
9 State apprenticeship agency;

10          “(v) an Indian Tribe or Tribal organi-  
11 zation;

12          “(vi) an industry or sector partner-  
13 ship, a group of employers, a trade asso-  
14 ciation, or a professional association that  
15 sponsors or participates in a program  
16 under the national apprenticeship system;

17          “(vii) a Governor of a State;

18          “(viii) a labor organization or joint  
19 labor-management organization; or

20          “(ix) a qualified intermediary.

21          “(B) SPONSOR REQUIREMENT.—Not fewer  
22 than 1 entity described in subparagraph (A)  
23 shall be the sponsor of a program under the na-  
24 tional apprenticeship system.

1           “(6) INSTITUTION OF HIGHER EDUCATION.—  
2           The term ‘institution of higher education’ has the  
3           meaning given the term in section 101 of the Higher  
4           Education Act of 1965 (20 U.S.C. 1001).

5           “(7) LOCAL EDUCATIONAL AGENCY; SEC-  
6           ONDARY SCHOOL.—The terms ‘local educational  
7           agency’ and ‘secondary school’ have the meanings  
8           given those terms in section 8101 of the Elementary  
9           and Secondary Education Act of 1965 (20 U.S.C.  
10          7801).

11          “(8) LOCAL WORKFORCE DEVELOPMENT  
12          BOARD.—The term ‘local workforce development  
13          board’ has the meaning given the term ‘local board’  
14          in section 3 of the Workforce Innovation and Oppor-  
15          tunity Act (29 U.S.C. 3102).

16          “(9) NONPROFIT ORGANIZATION.—The term  
17          ‘nonprofit organization’ means an organization that  
18          is described in section 501(c) of the Internal Rev-  
19          enue Code of 1986 and exempt from taxation under  
20          section 501(a) of such Code.

21          “(10) PROVIDER OF ADULT EDUCATION.—The  
22          term ‘provider of adult education’ has the meaning  
23          given the term ‘eligible provider’ in section 203 of  
24          the Adult Education and Family Literacy Act (29  
25          U.S.C. 3272).

1           “(11) RELATED INSTRUCTION.—The term ‘re-  
2           lated instruction’ means an organized and system-  
3           atic form of instruction designed to provide an indi-  
4           vidual in an apprenticeship program with the knowl-  
5           edge of the technical subjects related to the intended  
6           occupation of the individual after completion of the  
7           program.

8           “(12) SPONSOR.—The term ‘sponsor’ means  
9           any person, association, committee, or organization  
10          operating an apprenticeship program and in whose  
11          name the program is, or is to be, registered or ap-  
12          proved.

13          “(13) STATE APPRENTICESHIP AGENCY.—The  
14          term ‘State apprenticeship agency’ has the meaning  
15          given the term in section 29.2 of title 29, Code of  
16          Federal Regulations, or any corresponding similar  
17          regulation or ruling.

18          “(14) STATE WORKFORCE DEVELOPMENT  
19          BOARD.—The term ‘State workforce development  
20          board’ has the meaning given the term ‘State board’  
21          in section 3 of the Workforce Innovation and Oppor-  
22          tunity Act (29 U.S.C. 3102).

23          “(15) WIOA TERMS.—The terms ‘career plan-  
24          ning’, ‘community-based organization’, ‘economic de-  
25          velopment agency’, ‘industry or sector partnership’,



1 ‘on-the-job training’, ‘recognized postsecondary cre-  
2 dential’, and ‘workplace learning advisor’ have the  
3 meanings given those terms in section 3 of the  
4 Workforce Innovation and Opportunity Act (29  
5 U.S.C. 3102).

6 “(16) QUALIFIED INTERMEDIARY.—

7 “(A) IN GENERAL.—The term ‘qualified  
8 intermediary’ means an entity that dem-  
9 onstrates expertise in building, connecting, sus-  
10 taining, and measuring the performance of  
11 partnerships described in subparagraph (B) and  
12 serves program participants and employers  
13 by—

14 “(i) connecting employers to programs  
15 under the national apprenticeship system;

16 “(ii) assisting in the design and imple-  
17 mentation of such programs, including cur-  
18 riculum development and delivery for re-  
19 lated instruction;

20 “(iii) supporting entities, sponsors, or  
21 program administrators in meeting the  
22 registration and reporting requirements of  
23 this Act;

1           “(iv) providing professional develop-  
2           ment activities such as training to men-  
3           tors;

4           “(v) supporting the recruitment, re-  
5           tention, and completion of potential pro-  
6           gram participants, including nontraditional  
7           apprenticeship populations and individuals  
8           with barriers to employment;

9           “(vi) developing and providing person-  
10          alized program participant supports, in-  
11          cluding by partnering with organizations to  
12          provide access to or referrals for supportive  
13          services and financial advising;

14          “(vii) providing services, resources,  
15          and supports for development, delivery, ex-  
16          pansion, or improvement of programs  
17          under the national apprenticeship system;  
18          or

19          “(viii) serving as a program sponsor.

20          “(B) PARTNERSHIPS.—The term ‘partner-  
21          ships described in subparagraph (B)’ means  
22          partnerships among entities involved in, or ap-  
23          plying to participate in, programs under the na-  
24          tional apprenticeship system, including—

25                 “(i) industry or sector partnerships;

1           “(ii) partnerships among employers,  
 2           joint labor-management organizations,  
 3           labor organizations, community-based or-  
 4           ganizations, industry associations, State or  
 5           local workforce development boards, edu-  
 6           cation and training providers, social service  
 7           organizations, economic development orga-  
 8           nizations, Indian Tribes or Tribal organi-  
 9           zations, one-stop operators, one-stop part-  
 10          ners, or veterans service organizations in  
 11          the State workforce development system;  
 12          or

13           “(iii) partnerships among 1 or more  
 14          of the entities described in clauses (i) and  
 15          (ii).

16          “(b) ESTABLISHMENT OF APPRENTICESHIP PRO-  
 17          GRAMS.—Not later than 2 years after the date of enact-  
 18          ment of this section, the Director may establish 1 or more  
 19          apprenticeship programs as described in subsection (c).

20          “(c) APPRENTICESHIP PROGRAMS DESCRIBED.—An  
 21          apprenticeship program described in this subsection is an  
 22          apprenticeship program that—

23           “(1) leads directly to employment in—

24           “(A) a cybersecurity work role with the  
 25          Agency; or

1           “(B) a position with a company or other  
2           entity provided that the position is—

3                   “(i) certified by the Director as con-  
4                   tributing to the national cybersecurity of  
5                   the United States; and

6                   “(ii) funded at least in majority part  
7                   through a contract, grant, or cooperative  
8                   agreement with the Agency;

9           “(2) is focused on competencies and related  
10          learning necessary, as determined by the Director, to  
11          meet the immediate and ongoing needs of cybersecu-  
12          rity work roles at the Agency; and

13           “(3) is registered with and approved by the Of-  
14          fice of Apprenticeship of the Department of Labor  
15          or a State apprenticeship agency pursuant to the  
16          Act of August 16, 1937 (commonly known as the  
17          ‘National Apprenticeship Act’; 29 U.S.C. 50 et seq.).

18          “(d) COORDINATION.—In the development of an ap-  
19          prenticeships program under this section, the Director  
20          shall consult with the Secretary of Labor, the Director of  
21          the National Institute of Standards and Technology, the  
22          Secretary of Defense, the Director of the National Science  
23          Foundation, and the Director of the Office of Personnel  
24          Management to leverage existing resources, research, com-

1 munities of practice, and frameworks for developing cyber-  
2 security apprenticeship programs.

3 “(e) OPTIONAL USE OF GRANTS OR COOPERATIVE  
4 AGREEMENTS.—An apprenticeship program under this  
5 section may include entering into a contract or cooperative  
6 agreement with or making a grant to an eligible entity  
7 if determined appropriate by the Director based on the  
8 eligible entity—

9 “(1) demonstrating experience in implementing  
10 and providing career planning and career pathways  
11 toward apprenticeship programs;

12 “(2) having knowledge of cybersecurity work-  
13 force development;

14 “(3) being eligible to enter into a contract or  
15 cooperative agreement with or receive grant funds  
16 from the Agency as described in this section;

17 “(4) providing students who complete the ap-  
18 prenticeship program with a recognized postsec-  
19 ondary credential;

20 “(5) using related instruction that is specifically  
21 aligned with the needs of the Agency and utilizes  
22 workplace learning advisors and on-the-job training  
23 to the greatest extent possible; and

1           “(6) demonstrating successful outcomes con-  
2           necting graduates of the apprenticeship program to  
3           careers relevant to the program.

4           “(f) APPLICATIONS.—If the Director enters into an  
5           arrangement as described in subsection (e), an eligible en-  
6           tity seeking a contract, cooperative agreement, or grant  
7           under the program shall submit to the Director an applica-  
8           tion at such time, in such manner, and containing such  
9           information as the Director may require.

10          “(g) PRIORITY.—In selecting eligible entities to re-  
11          ceive a contract, grant, or cooperative agreement under  
12          this section, the Director may prioritize an eligible entity  
13          that—

14                 “(1) is a member of an industry or sector part-  
15          nership;

16                 “(2) provides related instruction for an appren-  
17          ticeship program through—

18                         “(A) a local educational agency, a sec-  
19                         ondary school, a provider of adult education, an  
20                         area career and technical education school, or  
21                         an institution of higher education; or

22                         “(B) an apprenticeship program that was  
23                         registered with the Department of Labor or a  
24                         State apprenticeship agency before the date on

1           which the eligible entity applies for the grant  
2           under subsection (g);

3           “(3) works with the Secretary of Defense, the  
4           Secretary of Veterans Affairs, or veterans organiza-  
5           tions to transition members of the Armed Forces  
6           and veterans to apprenticeship programs in a rel-  
7           evant sector; or

8           “(4) plans to use the grant to carry out the ap-  
9           prenticeship program with an entity that receives  
10          State funding or is operated by a State agency.

11          “(h) TECHNICAL ASSISTANCE.—The Director shall  
12          provide technical assistance to eligible entities to leverage  
13          the existing job training and education programs of the  
14          Agency and other relevant programs at appropriate Fed-  
15          eral agencies.

16          “(i) EXCEPTED SERVICE.—Participants in the pro-  
17          gram may be entered into cybersecurity-specific excepted  
18          service positions as determined appropriate by the Direc-  
19          tor and authorized by section 2208.

20          “(j) REPORT.—

21                  “(1) IN GENERAL.—Not less than once every 2  
22                  years after the establishment of an apprenticeship  
23                  program under this section, the Director shall sub-  
24                  mit to Congress a report on the program, includ-  
25                  ing—

1 “(A) a description of—

2 “(i) any activity carried out by the  
3 Agency under this section;

4 “(ii) any entity that enters into a con-  
5 tract or agreement with or receives a grant  
6 from the Agency under subsection (e);

7 “(iii) any activity carried out using a  
8 contract, agreement, or grant under this  
9 section as described in subsection (e); and

10 “(iv) best practices used to leverage  
11 the investment of the Federal Government  
12 under this section; and

13 “(B) an assessment of the results achieved  
14 by the program, including the rate of continued  
15 employment at the Agency for participants  
16 after completing an apprenticeship program  
17 carried out under this section.

18 “(k) PERFORMANCE REPORTS.—Not later than 1  
19 year after the establishment of an apprenticeship program  
20 under this section, and annually thereafter, the Director  
21 shall submit to Congress and the Secretary of Labor a  
22 report on the effectiveness of the program based on the  
23 accountability measures described in clauses (i) and (ii)  
24 of section 116(b)(2)(A) of the Workforce Innovation and  
25 Opportunity Act (29 U.S.C. 3141(b)(2)(A)).



1 “(l) AUTHORIZATION OF APPROPRIATIONS.—There is  
 2 authorized to be appropriated to the Agency such sums  
 3 as necessary to carry out this section.”.

4 (b) TECHNICAL AND CONFORMING AMENDMENT.—  
 5 The table of contents in section 1(b) of the Homeland Se-  
 6 curity Act of 2002 (Public Law 107–296; 116 Stat. 2135)  
 7 is amended by inserting after the item relating to section  
 8 2217 the following:

“Sec. 2218. Apprenticeship program.”.

9 **SEC. 4. PILOT PROGRAM ON CYBER TRAINING FOR VET-**  
 10 **ERANS AND MEMBERS OF THE ARMED**  
 11 **FORCES TRANSITIONING TO CIVILIAN LIFE.**

12 (a) DEFINITIONS.—In this section:

13 (1) ELIGIBLE INDIVIDUAL.—The term “eligible  
 14 individual” means an individual who is—

15 (A) a member of the Armed Forces  
 16 transitioning from service in the Armed Forces  
 17 to civilian life; or

18 (B) a veteran.

19 (2) PORTABLE CREDENTIAL.—The term “port-  
 20 able credential”—

21 (A) means a documented award by a re-  
 22 sponsible and authorized entity that has deter-  
 23 mined that an individual has achieved specific  
 24 learning outcomes relative to a given standard;  
 25 and

1 (B) includes a degree, diploma, license,  
2 certificate, badge, and professional or industry  
3 certification that—

4 (i) has value locally and nationally in  
5 labor markets, educational systems, or  
6 other contexts;

7 (ii) is defined publicly in such a way  
8 that allows educators, employers, and other  
9 individuals and entities to understand and  
10 verify the full set of skills represented by  
11 the credential; and

12 (iii) enables a holder of the credential  
13 to move vertically and horizontally within  
14 and across training and education systems  
15 for the attainment of other credentials.

16 (3) VETERAN.—The term “veteran” has the  
17 meaning given the term in section 101 of title 31,  
18 United States Code.

19 (4) WORK-BASED LEARNING.—The term “work-  
20 based learning” has the meaning given the term in  
21 section 3 of the Carl D. Perkins Career and Tech-  
22 nical Education Act of 2006 (20 U.S.C. 2302).

23 (b) ESTABLISHMENT.—Not later than 1 year after  
24 the date of enactment of this Act, the Secretary of Vet-  
25 erans Affairs shall establish a pilot program under which

1 the Secretary shall provide cyber-specific training for eligi-  
2 ble individuals.

3 (c) ELEMENTS.—The pilot program established  
4 under subsection (b) shall incorporate—

5 (1) virtual platforms for coursework and train-  
6 ing;

7 (2) hands-on skills labs and assessments;

8 (3) Federal work-based learning opportunities  
9 and programs; and

10 (4) the provision of portable credentials to eligi-  
11 ble individuals who graduate from the pilot program.

12 (d) ALIGNMENT WITH NICE WORKFORCE FRAME-  
13 WORK FOR CYBERSECURITY.—The pilot program estab-  
14 lished under subsection (b) shall align with the taxonomy,  
15 including work roles and associated tasks, knowledge, and  
16 skills, from the National Initiative for Cybersecurity Edu-  
17 cation Workforce Framework for Cybersecurity (NIST  
18 Special Publication 800–181), or any successor frame-  
19 work.

20 (e) COORDINATION.—

21 (1) TRAINING, PLATFORMS, AND FRAME-  
22 WORKS.—In developing the pilot program under sub-  
23 section (b), the Secretary of Veterans Affairs shall  
24 coordinate with the Secretary of Defense, the Sec-  
25 retary of Homeland Security, the Secretary of

1 Labor, and the Director of the Office of Personnel  
2 Management to evaluate and, where possible, lever-  
3 age existing training, platforms, and frameworks of  
4 the Federal Government for providing cyber edu-  
5 cation and training to prevent duplication of efforts.

6 (2) FEDERAL WORK-BASED LEARNING OPPOR-  
7 TUNITIES AND PROGRAMS.—In developing the Fed-  
8 eral work-based learning opportunities and programs  
9 required under subsection (c)(3), the Secretary of  
10 Veterans Affairs shall coordinate with the Secretary  
11 of Defense, the Secretary of Homeland Security, the  
12 Secretary of Labor, the Director of the Office of  
13 Personnel Management, and the heads of other ap-  
14 propriate Federal agencies to identify or create  
15 interagency opportunities that will enable the pilot  
16 program established under subsection (b) to—

17 (A) bridge the gap between knowledge ac-  
18 quisition and skills application for participants;  
19 and

20 (B) give participants the experience nec-  
21 essary to pursue Federal employment.

22 (f) RESOURCES.—

23 (1) IN GENERAL.—In any case in which the  
24 pilot program established under subsection (b)—

1 (A) uses a program of the Department of  
2 Veterans Affairs or platforms and frameworks  
3 described in subsection (e)(1), the Secretary of  
4 Veterans Affairs shall take such actions as may  
5 be necessary to ensure that those programs,  
6 platforms, and frameworks are expanded and  
7 resourced to accommodate usage by eligible in-  
8 dividuals participating in the pilot program; or

9 (B) does not use a program of the Depart-  
10 ment of Veterans Affairs or platforms and  
11 frameworks described in subsection (e)(1), the  
12 Secretary of Veterans Affairs shall take such  
13 actions as may be necessary to develop or pro-  
14 cure programs, platforms, and frameworks nec-  
15 essary to carry out the requirements of sub-  
16 section (c) and accommodate the usage by eligi-  
17 ble individuals participating in the pilot pro-  
18 gram.

19 (2) ACTIONS.—Actions described in paragraph  
20 (1) may include providing additional funding, staff,  
21 or other resources to—

22 (A) provide administrative support for  
23 basic functions of the pilot program;

1           (B) ensure the success and ongoing en-  
2           gagement of eligible individuals participating in  
3           the pilot program;

4           (C) connect graduates of the pilot program  
5           to job opportunities within the Federal Govern-  
6           ment; and

7           (D) allocate dedicated positions for term  
8           employment to enable Federal work-based  
9           learning opportunities and programs for partici-  
10          pants to gain the experience necessary to pur-  
11          sue permanent Federal employment.

12 **SEC. 5. FEDERAL WORKFORCE ASSESSMENT EXTENSION.**

13          Section 304(a) of the Federal Cybersecurity Work-  
14          force Assessment Act of 2015 (5 U.S.C. 301 note) is  
15          amended, in the matter preceding paragraph (1), by strik-  
16          ing “2022” and inserting “2025”.

○