1   H.318

2   Introduced by Representative Priestley of Bradford

3   Referred to Committee on

4   Date:

5   Subject: Education; courses of study; curriculum; computer science;

6   professional development

7   Statement of purpose of bill as introduced: This bill proposes to require public

8   schools to offer courses in computer science, provide funding and guidance for

9   the professional development of computer science teachers, and establish

10   computer science standards and pathways for students.

11   An act relating to computer science in Vermont's public schools

12   It is hereby enacted by the General Assembly of the State of Vermont:

13   Sec. 1. 16 V.S.A. chapter 23, subchapter 3 added to read:

14   Subchapter 3. Computer Science

15   § 971. DEFINITIONS

16   As used in this subchapter:

17   (1) "Computer science" means the study of computers and algorithmic

18   processes including their principles, their hardware and software designs, their

19   implementation, and their impact on society. Content should focus on teaching

20   students how to create new technologies, not simply how to use technology.

1   (2) "Computer science courses and content" means courses in

2   elementary, middle, or high school that teach computer science as standalone

3   implementations or, for elementary and middle school, embedded in other

4   subjects.

5   (3) "High-quality professional learning" means professional

6   development activities that:

7   (A) clarify the conceptual foundations of computer science;

8   (B) teach research-based practices, including hands-on and inquiry-

9   based learning; and

10   (C) are intended for existing teachers with or without prior exposure

11   to computer science.

12   (4) "High-quality professional learning providers" means postsecondary

13   schools, nonprofits, or private entities that have successfully designed,

14   implemented, and scaled high-quality computer science professional learning

15   for teachers as defined in subdivision (3) of this section that meets relicensure

16   credit standards set by the Standards Board for Professional Educators.

17   § 972. COMPUTER SCIENCE; REQUIRED COURSE OFFERING

18   (a) Beginning with the 2025–2026 school year, each public high school

19   shall offer at least one computer science course for students in grades nine

20   through 12.

1   (b) Beginning with the 2025–2026 school year, each public school that

2   operates grades six through eight shall offer instruction in exploratory

3   computer science to students in those grades.

4   (c) Beginning with the 2025–2026 school year, each public elementary

5   school shall offer instruction in the basics of computer science and

6   computational thinking.

7   (d) A computer science course or instruction in computer science offered

8   by a public school shall:

9   (1) be of high quality, as defined by the State Board of Education; and

10   (2) meet or exceed the standards and curriculum requirements

11   established by the State Board of Education.

12   (e) A computer science course offered by a public high school shall be

13   offered in an in-person setting. If a traditional classroom setting is not feasible,

14   the public high school may submit an alternate plan for approval by the

15   Agency of Education, prior to the start of the school year, to offer a virtual or

16   distance learning course option. The computer science courses shall be listed

17   as an option in the school's course catalog regardless of whether they are

18   offered in-person or virtually.

19   (f) Beginning on September 1, 2025 and every September 1 thereafter, each

20   school district shall submit to the Agency of Education a report for the current

21   academic year that shall include the following:

1   (1) the names and course codes of computer science courses offered in

2   each school within the district, including course descriptions and identification

3   of which State computer science standards are covered, to the extent such

4   information is available;

5   (2) the number and percentage of students who enrolled in each

6   computer science course, disaggregated by the following categories; provided,

7   however, if the number or percentage would cause the individual identity of

8   students to be known, the number shall be replaced with a symbol:

9   (A) gender;

10   (B) race and ethnicity;

11   (C) special education status, including students on an IEP or section

12   504 plan;

13   (D) English learners;

14   (F) eligibility for free and reduced-price meals; and

15   (G) grade level; and

16   (3) the number of computer science instructors at each school,

17   disaggregated by:

18   (A) endorsement, if applicable;

19   (B) gender;

20   (C) race and ethnicity; and

21   (D) highest academic degree obtained.

1   (g) On or before each November 15, the Agency of Education shall make

2   available to the public on its website:

3   (1) the data collected pursuant to subsection (f) of this section, as

4   follows:

5   (A) the data collected pursuant to subdivisions (f)(1) and (2) of this

6   section shall be disaggregated by school and aggregated at the State level; and

7   (B) the data collected pursuant to subdivision (f)(3) shall be posted as

8   aggregate statewide data; and

9   (2) a list of computer science course codes and names, including course

10   description and which courses align to the State computer science standards.

11   § 973. COMPUTER SCIENCE PROFESSIONAL DEVELOPMENT;

12   GRANT PROGRAM

13   (a) Subject to funds appropriated by the General Assembly, the Agency of

14   Education shall administer a Computer Science Professional Development

15   Grant Program. This program shall be a competitive grant program to

16   administer funds to eligible entities to develop and implement teacher

17   professional development programs for the computer science courses and

18   content required under this subchapter.

19   (b) Eligible entities shall include:

20   (1) supervisory unions, boards of cooperative education services, and

21   consortiums of supervisory unions; and

1   (2) high-quality computer science professional learning providers,

2   including postsecondary schools in the State and nonprofit or private entities

3   working in partnership with supervisory unions.

4   (c) Eligible uses of grant funds shall be:

5   (1) high-quality professional learning for kindergarten through grade 12

6   computer science content, including travel to workshops;

7   (2) credentialling for kindergarten through grade 12 computer science

8   teachers, including CTE teachers and supplemental endorsements;

9   (3) supports for kindergarten through grade 12 computer science

10   professional learning, including mentoring and coaching;

11   (4) creation of resources to support implementation; and

12   (5) student recruitment.

13   (d) As a condition of receiving grant funds pursuant to this section, eligible

14   entities shall submit an application to the Agency of Education which, at a

15   minimum, shall address how the eligible entity will:

16   (1) reach new and existing teachers with little to no computer science

17   background;

18   (2) use research or evidence based practices for high-quality

19   professional development;

20   (3) focus the professional learning on the conceptual foundations of

21   computer science;

1   (4) reach and support marginalized racial and ethnic groups

2 underrepresented in computer science;

3   (5) provide teachers with concrete experience with hands-on, inquiry-

4 based practices;

5   (6) accommodate the particular teacher and student needs in each

6 district and school; and

7   (7) ensure that participating districts shall begin offering the course or

8 courses and content within the same or next school year after the teacher

9 receives the professional learning.

10 (e) The Agency shall prioritize the following applications:

11   (1) supervisory unions that are working in partnership with providers of

12 high-quality professional learning for kindergarten through grade 12 computer

13 science;

14   (2) proposals that describe strategies to enroll female students, students

15 from marginalized racial and ethnic groups underrepresented in computer

16 science, students eligible for free and reduced-price meals, students with

17 disabilities, and English learners; and

18   (3) proposals from rural or urban areas with a low penetration of

19 kindergarten through grade 12 computer science offerings, including

20 supervisory unions that partner together to form clusters of implementation.

1   (f) Any unused portion of an appropriation made pursuant to this section

2   shall not revert to the General Fund and shall be available for expenditure in

3   the following fiscal year.

4   (g) Annually, award recipients shall submit the following data to the

5   Agency, who shall make the data publicly available on its website:

6   (1) the number of teachers that participated in teacher computer science-

7   related teacher preparation;

8   (2) the number of students reached in total;

9   (3) the number and percent of students reached, disaggregated by

10   gender, race or ethnicity, and socioeconomic status;

11   (4) the number and percentage of students with passing AP exam scores

12   for high school AP courses, disaggregated by gender and race or ethnicity;

13   (5) the number of teachers that begin implementing computer science

14   courses or concepts compared to the number of teachers that attended

15   professional learning.

16   § 974. COMPUTER SCIENCE GRADUATION REQUIREMENT

17   (a) Beginning with the 2027–2028 school year, each student attending a

18   public school shall complete one high school level computer science course as

19   a condition of receiving a high school diploma.

20   (b) On or before July 1, 2027, the Agency of Education shall adopt a list of

21   approved courses that students may take to fulfill the requirement of subsection

1   (a) of this section, which shall be made publicly available on the Agency's

2   website. The approved courses shall meet or exceed the standards and

3   curriculum requirements established by the State Board, and may be taken in

4   middle or high school grades.

5   (c) A computer science course offered by a public high school shall be

6   offered in an in-person setting and may be offered as a virtual or distance

7   course option only when a traditional classroom setting is not possible.

8   (d) For school years 2027–2031, a public school may submit a signed

9   notification to the Agency that certifies a computer science course was not

10   available for its students to fulfill the graduation requirement contained in

11   subsection (a) of this section, and the Agency may waive the computer science

12   graduation requirement. The Agency shall maintain a list of schools that

13   submitted notifications pursuant to this subsection.

14   (e) For school years 2027–2031, a student may submit a waiver to the

15   Agency, on a form developed by the Agency, in the event the student is unable

16   to complete the computer science course graduation requirement, and the

17   Agency may waive such graduation requirements. The Agency shall maintain

18   a list of students that submitted waivers pursuant to this subsection.

19   (f) Computer science courses may also fulfill other existing graduation

20   requirements.

1   (g)(1) Beginning with July 1, 2028 and every July 1 thereafter, each school

2   district shall submit a report to the Agency for the previous academic year that

3   shall include:

4   (A) the names and course codes of computer science courses offered

5   in each school within the district, including course descriptions and which

6   State computer science standards are covered, to the extent such information is

7   available; and

8   (B) the number of computer science instructors at each school within

9   the district, disaggregated by:

10   (i) endorsement, as applicable;

11   (ii) gender;

12   (iii) race and ethnicity; and

13   (iv) highest academic degree.

14   (2) The Agency shall publicly post on the Agency's website the data

15   received pursuant to subdivision (1) of this subsection (g), disaggregated by

16   school.

17   Sec. 2. COMPUTER SCIENCE STUDENT PERFORMANCE

18   STANDARDS; STATE BOARD OF EDUCATION

19   On or before July 1, 2026 and pursuant to subdivision 164(9) of this title,

20   the State Board of Education shall adopt rigorous kindergarten through grade

21   12 computer science student performance standards. The Board shall consider

1   existing computer science frameworks and content standards, including the K–

2   12 Computer Science Framework and the kindergarten through grade 12

3   computer science content standards developed by the Computer Science

4   Teachers Association.

5   Sec. 3. COMPUTER SCIENCE EDUCATION TASK FORCE; STATE

6   BOARD OF EDUCATION

7   (a) The State Board of Education shall establish a computer science

8   education task force to develop a State strategic plan for expanding computer

9   science education in elementary and secondary schools.

10   (b) The Task Force shall include representatives from:

11   (1) the State Board of Education;

12   (2) the Agency of Education;

13   (3) the computer science industry;

14   (4) applicable nonprofit organizations;

15   (5) the Vermont Superintendents Association;

16   (6) Vermont's postsecondary schools;

17   (7) the Vermont House of Representatives and the Vermont State

18   Senate; and

19   (8) a member of the Vermont National Education Association who

20   teaches computer science.

1   (c) The Board, in consultation with the Task Force, shall develop a State

2   strategic plan for a statewide computer science education program, that shall

3   include the following:

4   (1) a statement of purpose that describes the objectives or goals the

5   Board will accomplish by implementing a computer science education

6   program, the strategies by which those goals will be achieved, and a timeline

7   for achieving such goals;

8   (2) a summary of the current State landscape for kindergarten through

9   grade 12 computer science education, including demographic reporting of

10   students taking computer science courses;

11   (3) a plan for expanding computer science education opportunities to

12   every school in the State within five years, as well as a plan for increasing the

13   representation of students from traditionally underserved groups in computer

14   science, including female students, students from historically underrepresented

15   racial and ethnic groups, students with disabilities, English learner students,

16   students who qualify for free and reduced-price meals, and rural students;

17   (4) a plan for the development of rigorous standards and curriculum

18   guidelines for kindergarten through grade 12 computer science, including ways

19   to incorporate computer science into existing standards at the elementary level,

20   as appropriate;

1   (5) a plan for defining high-quality professional learning for teachers to

2   begin teaching computer science;

3   (6) on ongoing evaluation process that is overseen by the Board;

4   (7) proposed rules that incorporate the principles of the master plan into

5   the State's public education system as a whole; and

6   (8) a plan to ensure long-term sustainability.

7   (d) On or before December 1, 2026, the Board shall submit a written report

8   with the Board's State strategic plan, as required under subsection (c) of this

9   section, to the House and Senate Committees on Education.

10   (e) The State Board shall cause the Task Force to cease to exist on

11   December 1, 2027.

12   Sec. 4. STATE COMPUTER SCIENCE SUPERVISOR; POSITION

13   (a) There is established within the Agency of Education one full-time

14   classified position, which shall be a computer science supervisor position

15   responsible for carrying out the work of this act within the Agency, including

16   the development and implementation of the computer science education

17   strategic plan.

18   (b) There is appropriated to the Agency of Education from the General

19   Fund in fiscal year 2026 the sum of $150,000.00 for personal services and

20   operating expenses for the position created in subsection (a) of this section.

1   Sec. 5. INCENTIVES FOR PRE-SERVICE TEACHER PREPARATION

2   (a) Beginning on July 1, 2027, any program of teacher preparation leading

3   to a professional license shall include, as part of its curriculum, instruction in

4   computer science and computational thinking as applied to student learning

5   and classroom instruction that are grade-level and subject-area appropriate.

6   (b) From funds appropriated to the Agency of Education, the Agency shall

7   create a scholarship program for pre-service teachers to take a course in

8   computer science. A pre-service teacher enrolled in a State accredited

9   institution of higher education and working towards a degree to become

10   qualified to teach any kindergarten through grade 12 subject may receive a

11   scholarship after successful completion of one course in computer science.

12   The scholarship program will prioritize the recruitment of candidates from

13   underrepresented groups or candidates who agree to teach computer science in

14   schools with higher percentages of students from underrepresented groups,

15   rural schools, or under resourced schools.

16   (c) From funds appropriated to the Agency of Education, the Agency shall

17   create a grant program for eligible preservice education programs in the State

18   to develop and implement pathways in computer science education. The

19   pathways would prepare an enrolled pre-service teacher to add an endorsement

20   to teach computer science education to their intended major and area of

21   certification. The pathways would be open to pre-service teachers at both

1   secondary and elementary levels, and may include collaborations among

2   schools of computer science, schools of education, and nonprofit

3   organizations.

4   Sec. 6. EFFECTIVE DATE

5   This act shall take effect on July 1, 2025.