

JAN 20 2023

A BILL FOR AN ACT

RELATING TO COMPUTER SCIENCE EDUCATION.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that the importance of
2 computer science cannot be overstated. Computers have evolved
3 to become a part of everyday life, and an introduction to
4 computer science helps students better understand their digital
5 world and become problem solvers of the future.

6 According to the Bureau of Labor Statistics, the United
7 States will continue to be transformed by technological
8 advancements rooted in computer programs and applications over
9 the next ten years. Consequently, computing-based occupations
10 now make up more than half of all projected new jobs in the
11 science, technology, engineering, and mathematics fields,
12 commonly known as STEM fields. In the prior decade between 2010
13 and 2020, the number of computer science bachelor's degrees
14 conferred more than doubled from 39,600 to 97,000, respectively,
15 an increase of one hundred forty-five per cent. This means that
16 college graduates with computer science degrees have been, and



1 will continue to be, in high demand among employers across the
2 nation.

3 Notwithstanding, national survey and research results show
4 a disparity between the demand for computer science education
5 and its availability. Although ninety per cent of parents want
6 their children's schools to teach computer science, only fifty-
7 three per cent of schools offer computer science courses.
8 Further, disparities in access and representation remain present
9 among traditionally underrepresented groups. For example, women
10 make up just one-third of high school computer science students
11 nationally.

12 In 2018, the legislature found a similar disparity at the
13 state level. To address this, the legislature passed Act 51,
14 Session Laws of Hawaii 2018, which mandated that all public high
15 schools offer at least one computer science course by the 2021-
16 2022 school year. In 2021, the legislature further expanded
17 those computer science course requirements to elementary,
18 middle, and intermediate schools by enacting Act 158, Session
19 Laws of Hawaii 2021. As a result, excluding "combo" schools,
20 which are schools with combined grade bands (e.g., Lanai High
21 and Elementary School), one hundred per cent of public high



1 schools now offer a foundational computer science course,
2 exceeding the national average, and forty-two per cent of all
3 public schools offered a computer science course.

4 However, despite the success in expanding access to
5 computer science courses since 2018, the State has still fallen
6 short on its enrollment goals for these courses. According to
7 the department of education's Annual Report on Computer Science
8 Courses and Computer Science Content published in November 2022,
9 just fourteen per cent of unique students were enrolled in a
10 computer science course, with sixteen per cent of those students
11 comprising of high school students. Notably, data isolating the
12 percentage of high school students enrolled out of total high
13 school students was not provided by the report. In sum, the
14 legislature finds that promoting computer science education
15 remains a statewide necessity.

16 Accordingly, the purpose of this Act is to promote computer
17 science education in the State by:

18 (1) Allowing students to complete computer science courses
19 as a substitute for science courses at the high school
20 level to satisfy graduation credit requirements;



- 1 (2) Requiring a computer science course credit as a
- 2 graduation requirement at the high school level
- 3 beginning with the 2030-2031 school year; and
- 4 (3) Appropriating funds to the department of education for
- 5 teacher professional development in computer science.

6 SECTION 2. Section 302A-323, Hawaii Revised Statutes, is
7 amended to read as follows:

8 "**§302A-323 Computer science; curricula plan; public**
9 **schools.** (a) The department shall:

- 10 (1) Develop and implement a statewide computer science
- 11 curricula plan for public school students in
- 12 kindergarten through twelfth grade that may include
- 13 design thinking as part of the curricula; and
- 14 (2) Beginning with the 2021-2022 school year, ensure that
- 15 each public high school offers at least one computer
- 16 science course during each school year[-]; provided
- 17 that, beginning with the 2024-2025 school year,
- 18 students shall be allowed to complete computer science
- 19 courses as a substitute for science courses to satisfy
- 20 graduation credit requirements.



1 (b) Beginning with the 2022-2023 school year, at least one
2 public elementary school and one public middle or intermediate
3 school in each complex area shall offer computer science courses
4 or computer science content.

5 (c) Beginning with the 2023-2024 school year, no less than
6 fifty per cent of the public elementary schools and no less than
7 fifty per cent of the public middle and intermediate schools in
8 each complex area shall offer computer science courses or
9 computer science content.

10 (d) Beginning with the 2024-2025 school year, all public
11 elementary, middle, and intermediate schools shall offer
12 computer science courses or computer science content.

13 (e) Beginning with the 2030-2031 school year, all public
14 high schools shall require a computer science course credit as a
15 graduation requirement; provided that a public high school may
16 apply for a one-time two-year waiver from the requirements of
17 this subsection subject to board approval.

18 [~~e~~] (f) By June 30, 2022, and by each June 30
19 thereafter, the superintendent shall submit to the board and
20 legislature a report of the computer science courses and



1 computer science content offered during the previous school year
2 at the schools in each complex area. The report shall include:

3 (1) The names and course codes of the computer science
4 courses offered at each school;

5 (2) The number and percentage of students enrolled in each
6 computer science course and computer science content,
7 disaggregated by:

8 (A) Gender;

9 (B) Race and ethnicity;

10 (C) Special education status, including students
11 eligible for special education under the federal
12 Individuals with Disabilities Education Act, as
13 amended, or section 504 of the federal
14 Rehabilitation Act of 1973, as amended;

15 (D) English language learner status;

16 (E) Eligibility for the free and reduced price lunch
17 program; and

18 (F) Grade level;

19 provided that if a category contains one to five
20 students, or contains an amount that would allow the
21 amount of another category that contains one to five



1 students to be determined, the number of students
2 shall be replaced with a symbol indicating that one to
3 five students fulfilled that particular category;

4 (3) The names and course codes of the courses containing
5 computer science content and a description of the
6 computer science standards and content that are
7 covered by those courses; and

8 (4) The number of computer science instructors at each
9 school, disaggregated by:

10 (A) Any applicable certification;

11 (B) Gender;

12 (C) Race and ethnicity; and

13 (D) Highest academic degree earned.

14 [~~(f)~~] (g) For the purposes of this section, "offer" means
15 to provide a computer science course or computer science content
16 taught in the English or Hawaiian language by a teacher:

17 (1) Who is physically located at the school; or

18 (2) Who is not physically located at the school but
19 provides instruction through virtual means with the
20 assistance of a proctor who is physically located at
21 the school."



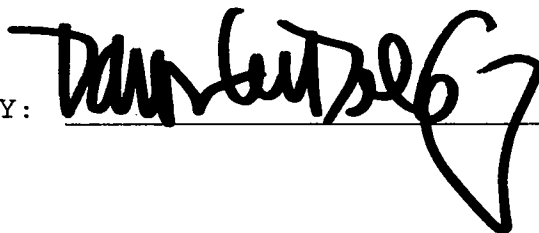
1 SECTION 3. There is appropriated out of the general
2 revenues of the State of Hawaii the sum of \$600,000 or so much
3 thereof as may be necessary for fiscal year 2023-2024 and the
4 same sum or so much thereof as may be necessary for fiscal year
5 2024-2025 for teacher professional development in computer
6 science.

7 The sums appropriated shall be expended by the department
8 of education for the purposes of this Act.

9 SECTION 4. Statutory material to be repealed is bracketed
10 and stricken. New statutory material is underscored.

11 SECTION 5. This Act shall take effect on July 1, 2023.

12

INTRODUCED BY: 



S.B. NO. 816

Report Title:

Computer Science; Department of Education; Graduation Requirements; Teacher Development; Appropriation

Description:

Allows students to complete computer science courses as a substitute for science credits at the high school level to count towards graduation requirements. Requires a computer science course credit as a graduation requirement at the high school level beginning with the 2030-2031 school year. Appropriates funds for teacher professional development in computer science.

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