Date of Hearing: April 10, 2024

ASSEMBLY COMMITTEE ON EDUCATION
Al Muratsuchi, Chair
AB 2097 (Berman) – As Amended April 1, 2024

SUBJECT: Student instruction: high schools: computer science courses: graduation requirements

SUMMARY: Requires that, commencing with the graduating class of 2030-31, students complete a one-year course in computer science; requires that high schools offer courses in computer science, as specified, commencing with the 2026-27 school year; requires that specified data about enrollment in computer science courses be reported to, and posted by, the California Department of Education (CDE); and requires the development of a computer science implementation guide. Specifically, **this bill**:

1) Requires that, commencing with students graduating in the 2030–31 school year, a student, including a student enrolled in a charter school, complete a one-year course in computer science while in grades 9 to 12, in order to receive a diploma of graduation from high school.

2) States that, subject to the course offerings of a local educational agency (LEA), a student including students enrolled in a charter school, may fulfill this requirement through the completion of any of the following types of courses:

    a) A computer science course that is aligned to the computer science academic content standards adopted by the State Board of Education (SBE), and in which students do not merely use technology as passive consumers, but understand why and how computing technologies work, and then build upon that conceptual knowledge by creating computational artifacts.

    b) A computer science course taught as part of a course that:

        i) Has been approved as meeting the A–G requirements for the University of California (UC) and the California State University (CSU); and

        ii) Is aligned to the computer science content standards adopted by the SBE.

3) Requires that, for courses meeting the requirements of (b) above, a student may count that course toward both the computer science graduation requirement and for the graduation requirement for which it is otherwise offered.

4) Requires that, commencing with the 2026–27 school year, at least one high school per school district offer a computer science course. States that school districts maintaining only one high school instead offer a computer science course by no later than the 2027–28 school year.

5) Requires that, commencing with the 2027–28 school year, all charter schools maintaining any of grades 9 to 12, inclusive, shall offer a computer science course.

6) Requires that, commencing with the 2027–28 school year, at least 50% of the high schools per school district shall offer a computer science course.

7) Requires that, commencing with the 2028–29 school year, all high schools in a school district offer a computer science course.

8) Requires that these computer science courses be provided through in-person instruction. If a traditional classroom setting is not feasible, permits the school district or charter school to submit an alternate plan to offer a virtual or distance course option. Requires the computer science course to be listed as an option in the school's course catalog.

9) Requires school districts and charter schools to make efforts to increase the computer science course enrollment of female students, students with disabilities, students who belong to ethnic and racial groups, and students eligible for free or reduced-priced meals, that are underrepresented in the field of computer science.

10) Defines the following terms:

    a) "Computer science" means the study of computers and algorithmic processes, including their principles, hardware and software designs, implementation, and impact on society, as described in the computer science academic content standards adopted by the state board pursuant to Section 60605.4; and

    b) "Computer science course" means a course that is aligned to the computer science academic content standards adopted by the SBE and in which students do not merely use technology as passive consumers, but understand why and how computing technologies work, and then build upon that conceptual knowledge by creating computational artifacts.

11) Requires that, or before June 30, 2027, and by each June 30 thereafter, each school district and charter school submit to the CDE a report for the concluding academic year that includes all of the following:

    a) The names and course codes of computer science courses offered in each school, including course descriptions and which computer science academic content standards are covered, to the extent that information is available; and

    b) The number and percentage of students who enrolled in each computer science course, disaggregated by each of the following:

        i) Gender;

        ii) Race and ethnicity;

        iii) Special education status;

        iv) English learner status;

        v) Eligibility for free and reduced-price meals; and

vi) Grade level

12) Requires the CDE to publicly post all of the following on its website:

a) The data identified above, disaggregated by school;

b) The data identified above, aggregated to the statewide level; and

c) A list of computer science course codes and names, including course descriptions and which courses align to the adopted computer science academic content standards.

13) Requires the CDE, under the direction of the California Computer Science Coordinator to develop a computer science implementation guide, to include information on all of the following regarding computer science standards-aligned courses:

a) Varied computer science course options to best meet local capacity and context, including, but not limited to, computer science courses taught as part of a course that may satisfy an A-G requirement or that may be integrated into another content area;

b) Credentialing pathways;

c) Existing funding sources for professional learning;

d) Case studies and best practices from California high schools;

e) References to computer science standards-aligned curriculum resources, including, but not limited to, open source options; and

f) Open source teacher-ready resources for utilization in computer science courses.

14) Requires school districts, county offices of education (COEs), and charter schools to review the computer science implementation guide for guidance regarding courses through which a student may fulfill the computer science graduation requirement.

EXISTING LAW:

1) Establishes requirements for graduation from high school, including three courses in English, two courses in mathematics, two courses in science, three courses in social studies, one course in visual or performing arts or world languages or CTE, two courses in physical education, and, commencing with the class of students graduating in the 2029-30 academic year, a one-semester course in ethnic studies.

2) Requires that, of the three courses in social studies, two must be year-long courses in United States history and geography, and in world history, culture, and geography, and that the remaining two are a one-semester course in American government and civics, and a one-semester course in economics.

3) Authorizes the governing board of a school district to require a student to complete additional coursework, beyond the courses required at the state level, in order to receive a diploma of graduation from high school.

4) Requires the Superintendent of Public Instruction (SPI) to convene a computer science strategic implementation advisory panel to develop recommendations for a computer science strategic implementation plan, and requires the panel to submit recommendations for a strategic plan to the SBE by January 15, 2019.

5) Requires the plan to include, at a minimum, recommendations on all of the following:

   a) Broadening the pool of teachers to teach computer science;

   b) Defining computer science education principles that meet the needs of students in all grades; and

   c) Ensuring that all students have access to quality computer science courses.

6) Requires the Instructional Quality Commission (IQC) to consider developing and recommending to the SBE, on or before July 31, 2019, computer science content standards for kindergarten and grades 1 to 12 pursuant to recommendations developed by a group of computer science experts.

7) States that if a school district requires more than two courses in mathematics for graduation from high school, the district may award a student up to one mathematics course credit for successfully completing a "category C" approved computer science course. (EC 51225.35)

8) Requires the CSU, and requests the UC, to develop guidelines for high school computer science courses that may be approved for the purposes of recognition for admission. (EC 66205.5)

9) Through regulation, authorizes holders of credentials in mathematics, business, and Industrial and Technology Education (ITE), as well as holders of supplementary authorizations in computer science, to teach computer science. (California Code of Regulations, Title 5, Section 80005)

10) Establishes the Computer Science Supplementary Authorization Incentive Grant Program for the purpose of providing one-time grants to LEAs to support the preparation of credentialed teachers to earn a supplementary authorization in computer science and provide instruction in computer science coursework. Authorizes LEAs to use grant funding to pay teachers' costs of coursework, books, fees, and tuition, as applicable. Requires applicants for the program to provide a 100% match of grant funding, which may be in the form of release time or substitute teacher costs. (AB 130 (Committee on Budget), Chapter 44, Statutes of 2021)

FISCAL EFFECT: This bill has been keyed a possible state-mandated local program by the Office of Legislative Counsel.

COMMENTS:

Need for the bill. The author states, "Thirty-one states already require every high school to offer a computer science course. Arkansas, Nebraska, Nevada, North Carolina, North Dakota, Rhode Island, South Carolina, and Tennessee go even further requiring a computer science course for high school graduation. California has fallen behind these other states when it comes to prioritizing access to computer science education, exacerbating educational inequities and diversity gaps.

According to the Kapor Center, 55% of high schools in California do not offer any computer science courses. Schools serving low-income communities are three times less likely to offer core computer science courses than schools serving high-income communities. Rural schools are two times less likely to offer computer science courses than urban schools. While 52% of high schools serving a greater proportion of White or Asian students offered computer science courses, only 34% of high schools serving high proportions of Black, Indigenous, Latinx, and Pacific Islander students, offered computer science courses. While young women comprise 49% of the high school population, they comprise only 30% of students taking computer science.

From Silicon Valley to Biotech Beach, California is the undisputed cradle of innovation, with over 45,000 high paying computing jobs open and unfilled here in California. Too many students grow up in the shadows of tech companies that are creating world-changing technology and offering good-paying careers, but they are not even getting the opportunity to learn the skills they need to one day work there. However, the reality is that computer science is about so much more than just Silicon Valley tech jobs. Computers and technology are an integral part of our everyday life and are relied upon in every industry, in every corner of California.

AB 2097 would ensure computer science for all by requiring public high schools in California to offer at least one computer science course with a phased in approach with final implementation by the 2028-29 school year. It also would create a computer science high school graduation requirement by the 2030-2031 school year. It is time to restore California as a leader and take the next step to ensure every high school student in California has access to computer science education, which will help close the gender and diversity gaps."

Comprehensive review of state graduation requirements, local graduation requirements, and UC/CSU "A-G" requirements is needed. This bill proposes to add a course in computer science to the coursework requirements commencing with the graduating class of 2030-31.

Current law specifies coursework requirements for graduation from high school, including three courses in English, two courses in mathematics, two courses in science, three courses in social studies, one course in visual or performing arts or world languages or CTE, and two courses in physical education. Commencing with students graduating in the 2029-30 academic year, subject to an appropriation, students will be required to take a one-semester course in ethnic studies. Current law also authorizes the governing board of a school district to adopt coursework requirements in excess of the coursework requirements of the state.

To be eligible for admission to the UC or the CSU, a student must complete two additional courses in mathematics (the fourth is strongly recommended), one additional course in the subjects of English and science (recommended), either one to three years of world languages and one year of visual and performing arts (depending upon the choices of the student in meeting

state graduation requirements), and one elective course. These "A-G" courses must meet college preparatory standards, and for UC, 11 of these courses must be taken before a student's senior year of high school.

Depending upon a student's choices, a student taking 7 classes in each of the four years of high school (many students do not) who plans to meet both state and UC/CSU requirements, has a maximum of 6 or 7 elective course choices over four years. Students who do not take a full schedule have fewer. Students who have other constraints on their schedules, including English learners, students with disabilities, and students who participate in athletics, may have even fewer choices. Research indicates that students' sense of control over their educational options (such as elective course-taking) is predictive of higher rates of graduation. (Zaff, 2016)

The Committee may wish to consider whether it is appropriate to add another graduation requirement at this time, given the existing requirements and the few opportunities students have to choose elective courses, the recent addition of Ethnic Studies, many other major policy changes recently enacted (such as universal transitional kindergarten, universal expanded learning, and universal meals), and the constraints imposed by the current fiscal environment. Further, ***the Committee may wish to consider*** whether the current, incremental approach to establishing graduation requirements is serving students and schools well, or if a comprehensive review of state graduation requirements, aligned to a vision for what California graduates should know and be able to do – perhaps akin to the "graduate profiles" some school districts have adopted - is needed.

Computer Science Strategic Implementation Plan emphasizes the need to improve access to computer science instruction. In May 2019, the SBE adopted the California Computer Science Strategic Implementation Plan, which supported the goal that "all schools offer rigorous and relevant computer science education equitably and sustainably throughout grades K–12." The plan made numerous recommendations organized into three themes: Access and Equity, Educator Support, and Standards Implementation.

The plan recommended that school districts adopt a high school graduation requirement for computer science, aligned to the 9–12 core computer science standards that can be satisfied through a variety of ways: standalone computer science courses, interdisciplinary courses, or a portfolio of computational artifacts.

Access to computer science education in California schools. Research points to problems of access, and enrollment disparities in, coursework in computer science. The author notes:

- 60% of high schools in California do not offer a single course in computer science (Code.org, 2022);

- California lags behind the national average, and behind 41 other states, in the percentage of high schools offering at least one computer science course (Code.org, 2022); and

- 5% percent of the 1.9 million high school students in California are enrolled in a computer science course. (Kapor Center, 2021)

Disparities in enrollment by race, gender, and region were also highlighted in *The California Computer Science Access Report* (Kapor Center, 2021):

- 34% percent of schools serving high proportions of Black, Indigenous, Latinx, and Pacific Islander students offer computer science courses, compared to 52% of schools serving a greater proportion of White and Asian students;

- Schools serving low-income communities are three times less likely to offer core computer science courses, and over two times less likely to offer Advanced Placement courses, than schools serving high-income communities;

- While female students comprise 49% of the high school population, just 30% of students taking computer sciences courses are female; and

- Rural schools are two times less likely to offer computer science courses than urban schools.

The author also notes that 27 other states currently require high schools to offer a computer science course, and 5 of those states require a computer science course for graduation from high school. (Kapor Center, 2021)

Data on some computer science offerings in secondary schools is shown below for the 2018-19 school year. ***The Committee may wish to consider*** that current course enrollment data more recent than 2018-19 is not posted on the CDE website.

Course Name	Number of Schools	Courses Taught	Number of UC/CSU Courses	Female Enrollment	Male Enrollment	Total Enrollment
Computer programming	194	468	80	2,865	5,315	8,180
Computer science	351	806	289	6,244	11,932	18,176
Exploring Computer Science	16	31	11	212	514	726
IB Computer science	7	18	16	102	328	430
Total	**954**	**1,979**	**1,008**	**14,477**	**29,214**	**43,691**

Source: CDE

Data provided by the College Board shows the following trends in AP computer science course offerings:

	2020		2021		2022		2023		2024	
	# of HS Schools	Percent	# of HS Schools	Percent	# of HS Schools	Percent	# of HS Schools	Percent	# of HS Schools	Percent
Both	246	13.4	283	15.4	308	15.4	308	15.4	299	14.9
CSA only	112	6.1	123	6.7	101	5	102	5.1	119	5.9
CSP only	277	15.1	254	13.8	255	12.7	276	13.8	293	14.6
Neither	1202	65.4	1177	64.1	1338	66.8	1316	65.7	1300	64.6
Total	1837	100	1837	100	2002	100	2002	100	2011	100

Source: College Board

According to a 2021 report by Code.org, the Computer Science Teachers Association, and the Expanding Computing Education Pathways Alliance, *2021 State of Computer Science Education* reported on Advanced Placement (AP) enrollment in computer science:

- Of the 32,263 AP computer science exams taken in California in 2018-19, 32% of the test takers identified as female;

- Black/African American students and Native Hawaiian/Pacific Islander students are both four times less likely than their white and Asian peers to take an AP computer science exam; and

- Hispanic students are three times less likely to take an AP computer science exam than their white and Asian peers.

What is the subject of computer science in grades K-12? Computer Science is a relatively new field of study for K-12 education. The Computer Science Strategic Implementation Panel's draft report notes that there is some confusion over what constitutes computer science instruction in K-12 schools: "Computer science is often misconstrued with other technological terminology such as computer literacy, educational technology, digital citizenship, and information technology. These areas focus more on the use of computing systems (e.g., learning to use word processing software). In contrast, computer science calls upon students to understand why and how computing technologies work, and then to build upon that conceptual knowledge by creating computational artifacts."

The state's computer science standards, adopted in 2018, define computer science education as "the study of computers and algorithmic processes, including their principles, their hardware and software designs, their applications, and their impact on society." The core concepts in computer science instruction are:

- Computing systems;
- Networks and Information systems;
- Data and Analysis;
- Algorithms and Programming; and
- Impacts of Computing

According to the International Society for Technology in Education's report, *ISTE Standards for Computer Science Education,* the field of computer science will continue to rapidly evolve in sometimes unpredictable ways, and as such, plans for teaching computer science will also need the flexibility to continuously adapt.

Computer Science content standards. In 2018, the SBE adopted California's first set of computer science standards for grades K-12. The standards are based on the five computer science core concepts and seven core practices:

Core Concepts	Core Practices
Computing systems	Fostering an inclusive computing culture
Networks and the internet	Collaborating around computing

Data and analysis	Recognizing and defining computational problems
Algorithms and programming	Developing and using abstractions
Impacts of computing	Creating computational artifacts
	Testing and refining computational artifacts
	Communicating about computing

Each standard includes a descriptive statement as well as examples for classroom application. As students progress through the standards from grades K–12, the standards call for students to build conceptual knowledge through active engagement in creative problem solving activities with an awareness of cultural and societal contexts. Computer science core concepts and practices in the standards are vertically aligned, coherent across grades, and designed in developmentally appropriate grade spans. The 9–12 grade span also includes an additional set of standards, referred to as 9–12 Specialty, which provides options for extending a pathway in computer science with content containing increased complexity and depth, and which may be used to create electives that are outside an introductory course.

In addition, the standards contain significant themes of equity, "powerful ideas," computational thinking, and breadth of application.

Computer Science teaching workforce constrains access to courses. The California Computer Science Strategic Implementation Plan notes that "to grow K–12 computer science education in California, the state will need to increase the number of teachers qualified to teach computer science. Supporting more educators to teach computer science would involve a multi-pronged approach that attends to credentialing, new teacher recruitment, professional learning for teachers, administrators, and counselors regarding the California computer science standards, and institutional and financial support."

California has three single subject teaching credentials (mathematics, business, and ITE) which authorize teachers to provide instruction in computer science. The Commission on Teacher Credentialing (CTC) issues supplementary authorizations in computer science which also authorize a teacher holding another credential to teach computer science.

In 2016 the CTC modified their Computer Concepts and Applications authorization to reflect a change in focus from teaching basic computer use, keyboarding, and software application to broader preparation in computer science education. The CTC also changed the name of the authorization to "Computer Science."

To obtain a supplementary authorization in computer science, teachers must complete 20 semester units or 10 upper division semester units, or the equivalent quarter units, of non-remedial coursework in computer science. They may also qualify by holding a collegiate major from a regionally accredited college or university in a subject directly related to the subject to be listed on the credential. The coursework must cover the following content areas:

- Computer Programming;
- Data structures and algorithms;
- Digital devices, systems and networks:
- Software design;
- Impacts of computing; and

- The balance of the units may be in any course that falls within the academic department for that subject category.

AB 1251 (Luz Rivas), Chapter 834, Statutes of 2023, establishes a workgroup to determine which single subject credentials should authorize the teaching of computer science, and to report recommendations to the Legislature. The requirements of this bill were contingent upon an appropriation, and as none has been made for this purpose, the CTC reports that the workgroup has not been formed.

Computer Science Supplementary Authorization Incentive Grant Program not producing single subject computer science teachers. This bill proposes to establish a graduation requirement in computer science. To implement this requirement, more teachers authorized to teach this subject would be needed. Workforce has frequently been cited as a challenge to expansion of CS offerings.

To address this challenge, AB 130 (Committee on Budget), Chapter 44, Statutes of 2021, appropriated $15 million to the CTC for the Computer Science Supplementary Authorization Incentive Grant Program. LEAs receiving grants through this program can use these funds to support tuition, fees, books, and/or release time for participating teachers. A 100% match of grant funds is required, and grant funds may not be used for program administrative purposes.

The CTC reported in February 2024 that, for the 2022-23 fiscal year:

- As of February 2024, four competitive rounds of Request for Applications have been awarded, a total of 12 LEAs with funds up to $2,607,500 to support 1,043 participants.
- $12,392,500 in grant funds remains;
- For the 2022-23 fiscal year, grantees requested a total of 117 participant slots and enrolled 62 participants (52.99%);
- 92% of participants are teaching at an LEA with a high unduplicated student count (above 50%);
- On average, participants need 14.5 units to earn a Computer Science Supplementary Authorization;
- After one year in the grant program, 0% of participants had earned a Computer Science Supplementary Authorization; and
- 0% of participants exited the program early. All participants are expected to continue coursework during the 2023-24 fiscal year.

Computer Science Grants, per Round	**Date**	**Total Grantees**	**Total Funding**	**Remaining Funds**
Round 1	June 20, 2022	4	$955,000	$14,050,000
Round 2	December 6, 2022	3	$152,500	$13,892,500
Round 3	May 12, 2023	3	$787,500	$13,105,000
Round 4	December 15, 2023	2	$712,500	$12,392,500
Totals		**12**	**$2,607,500**	**$12,392,500**

Source: CTC, 2024

Participant Teaching Information	# of Participants (n= 62)	% of Participants* (n= 62)
Average Teacher Tenure	9.65 Years	N/A
Teaches at a Rural School	7	11.29%
Teaches at a School with a High Unduplicated Student Count	57	91.94%
Multiple Subject	41	67.21%
Single Subject, Biological Science	5	8.20%
Single Subject, English	4	6.56%
Single Subject, Mathematics	8	13.11%
Single Subject, Social Science	3	4.92%

Source: CTC, 2024

The CTC reports that, in the first year of program implementation, the two most common challenges in administering this program were creating and implementing a grant program management system (29%) and LEAs experiencing high staff turnover (29%). LEAs also reported the following factors hindering the success of the program:

- "The cost of instructors and materials - $2,500 per participant is not sufficient to cover materials and faculty, even with matching funds."

- "It takes large amounts of time to collaborate, communicate with employees, and compile and record data. These actions usually take place out of the traditional workday."

- "The teachers see it as if they do it [earn the supplementary authorization] then they will teach CS [Computer Science], as opposed to being able to integrate CS into the content they are already teaching."

Arguments in support. Code.org writes, "Computer science education is necessary in today's increasingly digitized world, especially with the rise of artificial intelligence into everyday life. It is crucial that students know not just how to use technology, but how to create it. Every student deserves to be equipped with the knowledge, tools, and resources to successfully participate and thrive in modern society. As technology continues to expand, today's students need accessible, culturally relevant computer science education. Computer science teaches students how to meaningfully engage and affords them the opportunity to compete globally in an increasingly technology-driven world. Part of developing a well-informed citizenry is helping young people understand and approach computing technology while thinking critically about its potential and impacts. The time is now to pass AB 2097, a bill that will demonstrate the state's commitment to equitable, high-quality computer science education and equip all California students for success.

AB 2097 will ensure further development of access to computer science for every high school student in California — an opportunity that doesn't exist for many California children today. Despite California's unparalleled technological innovation, the state ranks 11th lowest in the nation for high school computer science access, with only 45% of its high schools offering computer science courses. Today, just 5% of students take a high school computer science course – and only 26% of AP Computer Science Principles and AP Computer Science A public school students in the 2022 test administration were Black, Latino, American Indian/Alaska Native, and Native Hawaiian/Other Pacific Islander. California also has the highest number of open computing jobs in the nation. As of January 2023, California has 45,245 open computing

jobs that have an average salary of $153,544, yet there were only 9,339 graduates in computer science in 2020. Requiring all schools to offer computer science and provide access to all students is a critical first step that is a key implementation piece of AB 2097. However, data has shown that gaps in participation persist even when every student has access to computer science. In states where every school offers computer science but is not a graduation requirement, fewer than 40% of female students are enrolled in computer science courses. Requiring all students to take a computer science course for graduation closes the gender and racial gaps in K-12 computer science participation, which is why AB 2097 also includes a graduation requirement by the 2030-2031 school year."

Arguments in opposition. The California Federation of Teachers writes, "While computers certainly are a part of our society's daily modern life, the mandate to require every school district to offer computer science courses and have every student take at least one as a graduation requirement provides two main problems for CFT.

First, the current state of funding for our public education system is unfortunately far below what is needed to meet the most basic needs of our student population today. The National Assessment of Educational Progress (NAEP)—a nationwide test of proficiency in reading and math—shows that California has consistently lagged behind most other states. Among the 50 states and Washington, DC, California is ranked 38th in math and 33rd in reading. Computer science courses require expensive hardware, often expensive software, and expensive professional development for instructors. Beyond the one-time costs, the technology sector is a rapidly-evolving arena, where technology is upgraded beyond the wildest dreams of those who used predecessor technology but a few years prior. Keeping up the materials in order to maintain some semblance of relevance in this course of study is a very expensive endeavor. Yet, AB 2097 has no new funding identified within it, and no ability to raise revenue in order to cover the costs that will endure for a realistic and successful computer science offering.

Secondly, computer science is an extremely engaging and detailed line of study and may not be what is necessary for graduates to successfully engage in higher education or the labor market. Classes in this field are not simply to instruct students how to use computers or common software suites and utilities. Computer science is a theory and practice that allows people to program computers to complete a multitude of tasks. This includes in-depth knowledge of devices, hardware and software, networking, security, storage, algorithms and more. Computer science as a requirement is likely far beyond what most students need in order to succeed in the next chapter of their lives."

Recommended amendments. Staff recommends that this bill be amended as follows:

1) Delete the proposed graduation requirement.

2) To conform to the Committee's policy on curriculum measures, instead of requiring school districts and charter schools to offer courses in computer science, require, in the same manner as AB 1054 of this Session, that school districts and charter schools develop and adopt a plan to offer courses in computer science.

3) Delete the requirement that LEAs include course descriptions and which computer science academic content standards are covered in their reporting to the CDE.

4) Specify a date by which the computer science implementation guide would be completed by the CDE, require that the CDE seek stakeholder input in developing the guide, and encourage, rather than require, LEAs to review the guide.

5) Technical and conforming changes.

Related legislation. AB 1054 (Berman), of the 2023-24 Session, would have required LEAs and charter schools maintaining any of grades 9 to 12 to adopt a plan to offer at least one course in computer science education beginning in the 2025-26 school year, as specified. This bill was held in the Senate Appropriations Committee.

AB 1251 (Luz Rivas), Chapter 834, Statutes of 2023, establishes a workgroup to determine which single subject credentials should authorize the teaching of computer science, and to report recommendations to the Legislature.

AB 1853 (Berman) of the 2021-22 Session would have established the Computer Science Preservice Teacher Grant Program, administered by the CTC to award competitive grants to institutions of higher education (IHEs) to develop or expand K–12 computer science and computational thinking coursework for individuals seeking specified teaching credentials. This bill was held in the Assembly Appropriations Committee.

AB 2187 (Luz Rivas) of the 2021-22 Session would have established a UC Subject Matter Project in computer science. This bill was held in the Assembly Appropriations Committee.

AB 130 (Committee on Budget), Chapter 44, Statutes of 2021, established the Computer Science Supplementary Authorization Incentive Grant Program for the purpose of providing one-time grants to LEAs to support the preparation of credentialed teachers to earn a supplementary authorization in computer science and provide instruction in computer science coursework.

AB 128 (Committee on Budget), Chapter 21, Statutes of 2021, appropriated $5 million on a one-time basis to establish the Educator Workforce Investment Grant: Computer Science, and required the CDE to select an institution of higher education or nonprofit organizations to provide professional learning for teachers and paraprofessionals statewide in strategies for providing high-quality instruction and computer science learning experiences aligned to the computer science content standards.

AB 498 (Quirk-Silva) of the 2021-22 Session was substantially similar to AB 1932 of the 2019-20 Session. This bill was amended into a different jurisdiction and held in the Senate Appropriations Committee.

AB 1410 (Quirk-Silva) of the 2019-2020 Session was substantially similar to AB 1932 of the 2019-20 Session. This bill was held in the Senate Appropriations Committee.

AB 1932 (Quirk-Silva) of the 2019-20 Session would have established the Computer Science Access Initiative, to improve students' access to instruction in computer science by increasing the number of teachers who are authorized and trained to provide computer science instruction in California public schools. This bill was held in the Assembly Education Committee.

AB 2309 (Berman) of the 2019-20 Session would have required the Commission on Teacher Credentialing (CTC) to develop and implement a program to award competitive grants to

postsecondary educational institutions for the development of preservice credential programs for individuals seeking a teaching credential, and the expansion of programs of study for single subject or multiple subject credentialed teachers seeking a supplementary authorization in computer science. This bill was held in the Assembly Education Committee.

AB 2274 (Berman) of the 2019-20 Session would have required the CDE to annually compile and post on its website a report on computer science courses, course enrollment, and teachers of computer science courses, for the 2019-20 school year and each subsequent school year. This bill was held in the Assembly Education Committee.

AB 1967 (Luz Rivas) of the 2019-20 Session would have established a UC Subject Matter Project in Computer Science. This bill was held in the Assembly Higher Education Committee.

AB 20 (Berman) of the 2019-20 Session would have established a Computer Science Coordinator position at the CDE. This bill was held in the Assembly Appropriations Committee.

AB 52 (Berman) of the 2019-20 Session would have required the computer science strategic implementation plan to be regularly updated. This bill was held in the Assembly Appropriations Committee.

AB 182 (Luz Rivas) of the 2019-20 Session would have required the CTC to establish a workgroup, comprised of certain members, to determine if the development of a single subject computer science credential is warranted and, if so, to consider requirements for that credential. This bill was held in the Assembly Appropriations Committee.

AB 1410 (Quirk-Silva and O'Donnell) of the 2019-20 Session would have established the Computer Science Access Initiative, to provide grants to LEAs for the purpose of increasing the number of teachers authorized and trained to instruct students in computer science. This bill was held in the Assembly Appropriations Committee.

SB 675 (Chang) of the 2019-20 Session would have enacted the Computer Occupations and Developing Education (CODE) Act, pursuant to which the SBE would administer a grant program promoting the teaching of computer science courses in the public secondary schools. This bill was held in the Senate Governmental Organization Committee.

AB 2329 (Bonilla), Chapter 693, Statutes of 2016, requires the SPI to convene a computer science strategic implementation advisory panel to develop recommendations for a computer science strategic implementation plan.

AB 2275 (Dababneh) of the 2015-16 Session would have authorized a person who holds a single subject teaching credential in business, industrial and technology education, mathematics, or science or a designated subjects career technical education teaching credential to teach courses in computer science to all students. This bill was held in the Assembly Education Committee.

AB 1539 (Hagman, 2014), Chapter 876, Statutes of 2014, requires the IQC to consider developing and recommending to the SBE, on or before July 31, 2019, computer science content standards for kindergarten and grades 1 to 12, pursuant to recommendations developed by a group of computer science experts.

AB 1764 (Olsen), Chapter 888, Statutes of 2014, states that if a school district requires more than two courses in mathematics for graduation from high school, the district may award a student up to one mathematics course credit.

REGISTERED SUPPORT / OPPOSITION:

Support

Amazon
Code.org
College Board
CS Forward
GenUp
Getaround
Kapor Center
Kira Learning
Lego Education
Microsoft Corporation
Monterey County Office of Education
Project Lead the Way
Salesforce
San Joaquin County Office of Education
Silicon Valley Leadership Group
SNAP INC.
State Superintendent of Public Instruction Tony Thurmond
TechNet
Zillow

Opposition

California Environmental Technology Education Network
California Federation of Teachers AFL-CIO
California School Boards Association
Charter Schools Development Center
2 individuals

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