



# Report to the Legislature on the Computer Science Supplementary Authorization Incentive Grant Program

Commission on Teacher Credentialing

February 2024

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## Executive Summary

This report provides an update on the 2021 Computer Science Supplementary Authorization Incentive Grant Program and presents the 2024 Annual Report to the Legislature on the Computer Science Supplementary Authorization Incentive Grant Program (Computer Science Grant) as required by Assembly Bill 130.

For the 2021-22 fiscal year, the legislature approved the sum of \$15 million for the 2021 Computer Science Grant Program. This 2024 state report includes information on the 2021 Computer Science Grant and reflects the first year of program participant data collected in the 2022-23 fiscal year. The local education agencies (LEAs) that successfully applied to this competitive grant program use these funds to support tuition, fees, books, and/or release time for participating teachers. A 100 percent match of grant funds is required, and grant funds may not be used for program administrative purposes. This report responds to the requirements specified in statute and provides an update to policymakers and others interested in the Computer Science Supplementary Authorization Incentive Grant Program.

This report is organized with the following headings:

- Year 1 Annual Data Report on the 2021 Computer Science Grant Program
- Institutions of Higher Education Grant Program Collaborator(s)
- Summary of All Computer Science Program Participants
- Ethnic/Racial Composition and Gender Identification of the Participants
- Program Narratives
- Summary and Conclusion

Overall findings for the 2022-23 fiscal year are summarized below:

- As of February 2024, four competitive rounds of Request for Applications have 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 for the 2022-23 fiscal year and enrolled 62 participants (52.99%).
- Ninety-two percent of participants are teaching at an LEA with a high unduplicated pupil count (above 50%, as defined by Education Code §42238.02).
- On average, participants need 14.5 units to earn a Computer Science Supplementary Authorization.
- After one year in the grant program, zero percent of participants earned a Computer Science Supplementary Authorization.
- Zero percent of participants exited the program early. All participants are expected to continue coursework during the 2023-24 fiscal year.

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# **Report to the Legislature on the 2021 Computer Science Supplementary Authorization Incentive Grant Program February 2024**

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## **Introduction**

Assembly Bill 130 requires the Commission on Teacher Credentialing (Commission) to submit an annual report by April 1 to the Legislature regarding the 2021 Computer Science Supplementary Authorization Incentive (Computer Science) Grant Program. The requirements of the report are specified in statute and must include, but not limited to, the following:

- The number of participating local educational agencies.
- The number of grants issued.
- The number of computer science supplementary authorizations issued.
- The number of new computer science courses reported by grant recipients.

## **Background**

For the 2021-22 fiscal year, the legislature approved the sum of \$15 million for the Computer Science Supplementary Authorization Incentive Grant Program. This grant program provides one-time grant awards up to \$2,500 per participant, with a required 100 percent match of grant funding, to support credentialed teachers to obtain a supplementary authorization in computer science and provide instruction in computer science coursework in settings authorized by the underlying credential. Any local education agency (LEA) that successfully applies to the competitive grant may use these funds to support tuition, fees, books, and/or release time. Priority is given to eligible grant applicants for teachers that provide instruction at either of the following: (a) a school operating within a rural district and/or (b) a school with a higher share than other applicants of unduplicated pupils, as defined in Section 42238.02 of the Education Code. This funding is available for encumbrance until June 20, 2026.

Annual participant data is collected by fiscal year and submitted in July. Per legislation, annual reports are due the first of April. The 2022-23 fiscal year was the first year of program implementation and the first annual data report that includes participant data. This 2024 state report is the first report to include participant data.

## **Year 1 Annual Data Report on the 2021 Computer Science Grant Program**

In March 2022, the Commission published the first round of Request for Applications (RFA) for the Computer Science Grant Program. Following a competitive RFA process, the Commission awarded four local education agencies (LEAs) with grants of up to \$955,000 across four years of the grant project period to support 382 teachers. In December 2022, Round Two RFA awarded three LEAs with grants of up to \$152,500 across four years to support 61 teachers. Round Three RFA was awarded May 2023, and three LEAs received grant funds up to \$787,500 to support 315 teachers across the remaining three years of the grant project period. Round Four RFA awarded two LEAs in December 2023 with funds up to \$712,500 to support 285 teachers. A

total of \$12,392,500 in grant funds remains. Round Five was released December 2023, and will be awarded April 2024. Grant competitions will be offered twice a year until the 2025-26 fiscal year or until \$15 million has been awarded. Table 1 below shows the summary of grant awards and remaining grant funds, per RFA round.

**Table 1: Award Summary of Computer Science Grants, per Round**

<b>Rounds</b>	<b>Date</b>	<b>Total Grantees</b>	<b>Total Funding</b>	<b>Remaining Funds</b>
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
	<b>Totals</b>	<b>12</b>	<b>\$2,607,500</b>	<b>\$12,392,500</b>

Table 2 below provides a summary, per RFA round, of each LEA grantee, the total number of participant slots awarded across the life of the grant through June 2026, and the total grant award for the life of the grant through June 2026. Legislation allocates grant funds for at least 6,000 participants, assuming all participants are funded at the maximum \$2,500 in one-time grant funds. A total of 1,043 participant slots from the available 6,000 slots were awarded (17.38%).

**Table 2: Computer Science Grant Recipients, Number of Total Participant Slots Awarded, and Total Grant Award, By Round**

<b>Local Education Agency (LEA)</b>	<b>Round</b>	<b># of Total Participant Slots Awarded</b>	<b>Total Grant Award</b>
Fontana Unified School District	1	120	\$300,000
Kern County Superintendent of Schools	1	140	\$350,000
Los Angeles Unified School District	1	120	\$300,000
Potter Valley Community Unified	1	2	\$5,000
Hawthorne School District	2	30	\$75,000
Pajaro Valley Unified School District	2	11	\$27,500
Redondo Beach Unified School District	2	20	\$50,000
Alvord Unified School District	3	180	\$450,000
Los Angeles Unified School District	3	60	\$150,000
Ventura County Office of Education	3	75	\$187,500
Marysville Joint Unified School District	4	135	\$337,500
Montebello Unified School District	4	150	\$375,000
<b>Totals</b>	<b>4</b>	<b>1,043</b>	<b>\$2,607,500</b>

### **Institutions of Higher Education Grant Program Collaborator(s)**

To earn a Computer Science Supplementary Authorization, teachers must complete twenty semester units or ten upper division semester units, or the equivalent quarter units, of non-remedial coursework within a specific subject category (introductory subjects or specific subjects). Teachers do not have to complete a specific Commission-approved program or complete all coursework at one specific institution. LEAs are encouraged to collaborate with institutions of higher education (IHEs) to support participants in the grant program. To support applicants and grantees, a list of [IHEs](#) that offer the required computer science coursework is published on the Computer Science Grant webpage. Note that this list only includes IHEs that submitted program information to the Commission.

Table 3 lists the institutions of higher education (IHEs) collaborators that offer the coursework needed to earn the Computer Science Supplementary Authorization. In narrative responses, 43 percent of grantees reported that collaborative efforts between the LEA and IHE was an area of strength. However, one LEA shared that the LEA’s grant timeline and the IHE application and enrollment timeline did not align, which made it challenging to enroll participants in the first year. Lastly, one LEA recommended integrating instructional pedagogy in the course sequence.

**Table 3: Computer Science Grantees and IHE Collaborator(s)**

<b>Local Education Agency (LEA)</b>	<b>IHE Collaborator(s)</b>
Alvord Unified School District	University of California, Davis University of California, Riverside
Fontana Unified School District	University of California, Davis
Hawthorne School District	California State University, Dominguez Hills
Kern County Superintendent of Schools	California State University, Bakersfield
Los Angeles Unified School District	University of California, Los Angeles
Los Angeles Unified School District	California State University, Los Angeles
Marysville Joint Unified School District	University of California, Davis University of California, Riverside
Montebello Unified School District	California State University, Los Angeles
Pajaro Valley Unified School District	University of California, Irvine University of California, Riverside
Potter Valley Community Unified	University of California, San Diego
Redondo Beach Unified School District	California State University, Dominguez Hills
Ventura County Office of Education	California State University, Channel Islands

### **Summary of All Computer Science Program Participants**

The following data in the state report reflects the annual data submitted from grantees in Rounds One and Two regarding enrolled participants during the 2022-23 fiscal year. All Round One (June 2022) and Round Two (December 2022) LEAs successfully submitted the annual data reporting requirements. Round Two was awarded December 2022 and LEAs were not able to enroll participants during the 2022-23 fiscal year. However, grantees provided narrative



responses to reflect on program implementation. Rounds Three and Four began enrolling participants in the 2023-24 fiscal year and are not included in the 2022-23 annual report.

The following summarizes participant enrollment and completion progress by the total number of awarded slots, the number of participants enrolled, the number of program completers that earned a supplementary authorization, and participants that exited the program early.

- Grantees requested a total of 117 participant slots for the 2022-23 fiscal year and enrolled 62 participants (52.99%). Table 4 lists Round One (awarded June 2022) and Round Two (awarded December 2022) grantees, the number of awarded slots for the 2022-23 year, and the number of participants enrolled. Note that all enrolled slots were from Round One grantees. Note that over the life of the grant, LEAs may have requested a different number of participant slots per fiscal year provided the number does not exceed the total number of participants projected in the grant application.
- Sixty-three percent of participants are pursuing an introductory subjects authorization and 37 percent of participants are pursuing a specific subjects authorization.
- On average, participants need 14.5 units to earn a Computer Science Supplementary Authorization.
- After one year in the grant program, zero percent of participants earned a Computer Science Supplementary Authorization. Note that several participants attended programs that ended July 2023, after the 2022-23 fiscal year. The completion rates will be captured in the 2023-24 annual report.
- Zero percent of participants exited the program early. All participants are expected to continue coursework during the 2023-24 fiscal year.

**Table 4: 2022-23 Participant Awarded Slots and Enrollment, by Round**

Local Education Agency (LEA)	Round	# of Participant Slots Awarded, 2022-23	# of Participants Enrolled, 2022-23	% of Participants Enrolled, 2022-23
Fontana Unified School District	1	30	21	70.00%
Kern County Superintendent of Schools	1	35	30	85.71%
Los Angeles Unified School District	1	30	10	33.33%
Potter Valley Community Unified	1	1	1	100%
Hawthorne School District	2	10	0	0%
Pajaro Valley Unified School District	2	1	0	0%
Redondo Beach Unified School District	2	10	0	0%
<b>Totals</b>	<b>2</b>	<b>117</b>	<b>62</b>	<b>52.99%</b>

Table 5 summarizes the participants’ teaching background and credential area. On average, participants have been teaching for close to ten years. Eleven percent of teachers in the grant program teach at a rural school, and 92 percent are teaching at an LEA with a high unduplicated pupil count (above 50%, as defined by Education Code §42238.02). Most participants have a Multiple Subject (67.21%) or a Single Subject Mathematics (13.11%) teaching credential. Note that Table 5 shares multiple data points from different categories, therefore the percentages will not add up to a hundred percent.

**Table 5: Participant Program Teaching Information and Credential Area**

<b>Participant Teaching Information</b>	<b># of Participants (n= 62)</b>	<b>% of Participants* (n= 62)</b>
Average Teacher Tenure	9.65 Years	N/A
Teaches at a Rural School	7	11.29%
Teaches at a School with a High Unduplicated Pupil 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%

\*The table reflects multiple data points. Percentages will not add up to a hundred percent.

**Ethnic/Racial Composition and Gender Identification of the Participants**

Programs reported the participants’ self-identified ethnic/racial composition and gender identity. The data in Tables 6 and 7 break down the demographics of program participants. Note that the Asian ethnic/racial category includes Chinese, Japanese, Korean, Vietnamese, Asian Indian, Laotian, Cambodian, Filipino, and Hmong. The Native Hawaiian or Pacific Islander ethnic/racial category also includes Guamanian, Samoan, and Tahitian.

Sixty-three percent of participants reported their race/ethnicity. Hispanic/Latinx participants are the largest report racial/ethnic group (24.19%), followed by White participants (19.35%). A hundred percent of participants reported their gender identity; reporting this information to the Commission is voluntary for participants in the program. Female participants were the largest group (67.74%), followed by male participants (32.26%).

**Table 6: Ethnic/Racial Composition of Participants**

<b>Race/Ethnicity</b>	<b>Total Participants</b>	<b>Percentage of Participants (n= 62)</b>
American Indian or Alaska Native	1	1.61%
Asian	6	9.68%
Black or African American	1	1.61%
Hispanic/Latinx (of any race)	15	24.19%
Native Hawaiian or Pacific Islander	0	0.00%

Race/Ethnicity	Total Participants	Percentage of Participants (n= 62)
White	12	19.35%
Two or more races	4	6.45%
Decline to state Race/Ethnicity	23	37.10%

**Table 7: Gender Identity of Participants**

Gender Identity	Total Participants	Percentage of Participants (n= 62)
Female	42	67.74%
Male	20	32.26%
Nonbinary	0	0%
Decline to state	0	0%

**Program Funding**

Round One (awarded June 2022) expended 65 percent of awarded grant funds. Round Two (awarded December 2022) did not enroll any participants and did not expend any awarded grant funds due to the timing of the grant award and the IHE enrollment timeline. Table 8 provides the annual grant award, the total amount expended during the 2022-23 year, the percentage expended, and the total amount of remaining funds. All participants were funded up to the \$2,500 legislative maximum. In grantees’ narrative responses, the four LEAs with enrolled participants matched grant funds with local funds (75%) and/or other grant funds (75%).

**Table 8: 2022-23 Grant Award Expenditure, per Round**

Round	Grant Award	Total Expended	% Expended	Remaining Funds
One	\$240,000	\$155,000	64.58%	\$85,000
Two	\$52,500	\$0	0%	\$52,500
<b>Total</b>	<b>\$292,500</b>	<b>\$155,000</b>	<b>52.99%</b>	<b>\$137,500</b>

Programs may request grant funds from any of the following budget categories:

- Teacher preparation costs (tuition and/or IHE fees)
- Teacher preparation costs (books and/or supplies)
- Release time and/or substitute teacher costs
- Supplemental authorization filing fee

All LEAs, except for one, requested grant funds from the teacher preparation costs (tuition and/or IHE fees) budget category. Round Two had one LEA request grant funds from all four allowable budget categories. All 2022-23 expenditures were from the teacher preparation costs (tuition and/or IHE fees) budget category.

## Program Narratives

In addition to reporting participant data, grantees submit annual narratives reflecting on the following:

- the matching funds source(s),
- the number of new computer science courses taught by teachers that have earned the supplementary authorization and how these courses are offered (e.g., standalone course, integrated in an elementary classroom, after school program, etc.),
- the extent to which the newly authorized computer science teachers have helped address the unmet needs for computer science instruction within the LEA, especially among rural schools or schools with a high share of unduplicated pupils,
- the best practices found to be effective in implementing the grant program,
- factors hindering program implementation, and
- any lessons learned to inform potential future investments in this type of grant program.

Note that some of the grantees' narrative responses were integrated into previous sections of the annual report. The following section highlights additional program narrative responses.

While at the time of annual data submission there were no program completers, three grantees reported that some participants had an impact in addressing the LEA's unmet needs for computer science instruction by incorporating topics from coursework into their current curriculum. Additionally, three LEAs reported plans to add computer science courses in the 2023-24 academic year. These planned courses will be taught by participants completing coursework by late summer or participants that are in progress. Grantees reported that the planned courses will be offered as standalone courses, integrated into elementary classrooms, afterschool programs, or to enhance current high school instruction. Specific courses taught during the 2023-24 academic year will be reported July 2024.

In the first year of program implementation, the two most common challenges reported were creating and implementing a grant program management system (29%) and LEAs experiencing high staff turnover (29%). The following direct narratives from grantees describe factors hindering program recruitment:

- "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."

Grantees also reported practices that have been effective in the first year of program implementation. Collaboration between LEAs and IHEs was the most common strength indicated (42.86%). An LEA shared that an online asynchronous model allowed "teachers to engage in learning around their own work schedule." Another grantee shared that a cohort

model helped to “continually observe and support teachers in implementing CS in the classroom so the teacher is not just collecting a supplemental authorization, but actually using it.” Lastly, 43 percent of grantees recommended planning and implementing the grant program early, as it takes a lot of time to collaborate with LEA staff, recruit and enroll teachers, and collaborate with IHEs.

### **Summary and Conclusion**

The 2024 annual state report reflects the first year of grant awards for the 2021 Computer Science Supplementary Authorization Incentive (Computer Science) Grant Program. Two Rounds of grant applications have awarded a total of seven LEAs. Due to the timing of grant award funding, IHE applications and enrollment, and when annual reports were collected for the fiscal year, only Round One enrolled a total of 62 participants. Round One participants are expected to continue the grant program in the 2023-24 academic year. Ninety-two percent of participants are teaching at an LEA with a high unduplicated pupil count (above 50%, as defined by Education Code §42238.02). The future annual report on the 2023-24 fiscal year will include Rounds One, Two, Three, and Four.

Round Five applications are due March 2024 and awards will be announced April 2024. Commission staff will continue to offer grant competitions twice a year until the 2025-26 fiscal year or until \$15 million has been awarded.