



SHASTA UNION HIGH SCHOOL DISTRICT

COMPUTER SCIENCE CASE STUDY

JANUARY 2026



Overview

Shasta Union High School District (HSD) is broadening access to computer science (CS) by weaving content into courses like robotics and engineering while also offering standalone courses like Advanced Placement (AP) Computer Science A and Computer Science Principles. Some barriers to widespread participation persist: Not all schools offer the same classes, enrollment skews toward male and non-Hispanic students, and enrollment in elective courses depends on teachers actively promoting the computer science class. Nevertheless, support for professional learning through workshops provided by the Educator Workforce Investment Grant in Computer Science (EWIG: CS) has helped teachers feel more confident about bringing computer science into the classroom. The district is exploring schedule changes and expanding training to make room for more computer science as part of a broader effort to make it a lasting part of the student experience.



Shasta Union High School District

Shasta Union HSD serves approximately 4,200 students across three comprehensive high schools in a rural region spanning 1,800 square miles in Northern California. The district draws students from multiple different districts and other feeder schools and faces challenges related to geography, staffing, and course consistency. Although all three high schools have offered AP computer science courses at various points, current offerings are limited, with only one site consistently running both Computer Science A and Computer Science Principles. To broaden access, some Shasta teachers are integrating computer science into other subjects like robotics and manufacturing and piloting elective showcases and response to intervention (RTI) enrichment blocks to boost participation.

Before the 2018–19 academic year, district leadership set out to establish robust computer science programming, recruiting multiple educators to launch that effort. Staffing changes slowed that momentum, but renewed encouragement and support from the central office has helped get the program back on track. Enterprise High School is now at the center of this work, with one highly influential teacher teaching multiple classes that feature computer science content and encouraging colleagues to embrace opportunities to learn. This effort, backed by engaged site administrators, demonstrates the promise of what a sustained and expanding computer science approach could entail.



Computer Science Course Offerings

Shasta has offered AP Computer Science A and Computer Science Principles at various times across its three high schools, though offerings have changed from year to year and site to site. In 2023–24, two high schools each offered either AP Computer Science A or Computer Science Principles. Enrollment has shifted throughout the years, with noticeable declines following the COVID-19 pandemic.

Exhibit 1. Computer Science Course Enrollment in Shasta High Schools

Year	Computer science students	Computer science courses
2018–19	83	5
2019–20	78	4
2020–21	33	3
2021–22	18	1
2022–23	14	1
2023–24	32	2

Key challenges include staffing constraints and competition for limited elective space in students’ schedules. Because computer science is taught by teachers with other primary assignments—often in math—course availability depends on whether those teachers have the interest and capacity to teach computer science. Moreover, students who choose to enroll in standalone computer science courses do so while faced with many other elective options. The result, in effect, is that computer science is competing with other classes for students’ attention. As one district representative explained, “Kids need a little nudge . . . If you’re not there to provide that nudge, maybe they won’t select your course.”

Two additional dynamics complicate this challenge. One is Shasta’s status as a high school district. Because students enter the district from a range of different middle schools in multiple feeder districts, Shasta educators do not have the opportunity to build awareness and common experiences in the early grades that might spark interest in computer science when students arrive in high school. The second is Shasta’s geographic setting.

Because the community is physically distant from the technology hubs elsewhere in the state, students and families do not always see the value or practical application of computer science knowledge and skills in the context where they live. Despite these obstacles, district leaders are also working to embed computer science concepts into other subjects and electives, aiming to expand exposure beyond traditional course pathways.

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Computer Science Course Enrollment

Shasta experienced a decline in computer science enrollment following the 2018–2019 school year, a trend district leaders attribute to staffing shortages that limited course availability. “I would say [the enrollment decline] is probably because of a teacher shortage—specifically math and science teacher shortage,” one leader explained. Enrollment dipped further during and after the pandemic, and disparities remain across grade levels, gender, and race, with male and Asian students overrepresented and fewer female and Hispanic students participating.

Enrollment by Grade Level

Grades 11 and 12 students consistently made up the largest share of Shasta computer science course participants. These trends reflect scheduling constraints and limited elective flexibility in lower grades. Because Shasta high schools feature six periods and because of the other required coursework for underclassmen, many younger students simply do not have the option of taking computer science. As one district leader explained, “We’re looking at [changing scheduling through options that could include] block schedule, 7-period day . . . because it’s not good for kids. They need to have some choice.”

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Exhibit 2. Shasta Union HSD Computer Science Course Enrollment by Grade Level

Grade	Overall enrollment 2023–24	Computer science enrollment					
		2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
9	25%	8%	13%	31%	5%	29%	13%
10	28%	12%	27%	24%	28%	0%	31%
11	24%	39%	33%	27%	39%	50%	28%
12	23%	41%	27%	18%	28%	21%	28%

Source: CALPADS.

Exhibit Reads: In 2023–24, 28% of students in Shasta were in Grade 10. In 2023–24, 31% of students enrolled in a computer science course in Shasta were in Grade 10.

Enrollment by Race/Ethnicity

Computer science course enrollment in Shasta reflects disparities by race and ethnicity. Asian students are consistently overrepresented in computer science courses—for example, they made up 8% of computer science students in 2023–24, compared to just 3% of the overall student population. Hispanic students participated at levels that were comparable to their overall representation in the student body from 2018–19 through 2020–21, but these percentages have dropped in recent years, at 9% of computer science students in 2023–24 despite making up more than 16% of the district. District leaders recognize these gaps and, according to one administrator, “We want our Hispanic students or Latina students to see adults that look like them.” Leaders are also working to shift perceptions of computer science and make it feel more accessible and welcoming to students from all backgrounds.

Exhibit 3. Shasta HSD Computer Science Course Enrollment by Race/Ethnicity

Race/ethnicity	Overall enrollment 2023–24	Computer science enrollment					
		2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
American Indian/Alaska Native	4%	1%	3%	0%	0%	0%	3%
Asian	3%	10%	9%	15%	6%	0%	9%
Hispanic	16%	16%	11%	18%	11%	0%	9%
White	68%	69%	76%	58%	72%	93%	63%
Multiple races	4%	2%	1%	6%	11%	7%	9%

Source: CALPADS

Notes. Demographic groups ‘Missing,’ ‘Black,’ ‘Native Hawaiian/Other Pacific Islander’ are not included in the exhibit because the percentage of students in these groups is lower than 2%. The sum of the percentages may not equal 100%.

Exhibit Reads: In 2023–24, 16% of students in Shasta were Hispanic. In 2023–24, 9% of students enrolled in a computer science course in Shasta were Hispanic.

Enrollment by Gender

Male students are consistently overrepresented in computer science courses compared to their share of the overall student population in Shasta, while female students remain underrepresented. District leaders are aware of this imbalance and have made efforts to encourage girls, alongside other underrepresented groups, to enroll in CS. As one administrator noted, “We’ve been purposeful in trying to encourage girls . . . but when I walk into classes, the numbers are even more skewed.”

Exhibit 4. Shasta USD Computer Science Course Enrollment by Gender

Gender	Overall enrollment 2023–24	Computer science enrollment					
		2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Female	49%	43%	36%	42%	33%	29%	44%
Male	51%	57%	64%	58%	67%	71%	53%

Source: CALPADS

Note. The sum of percentages for 2023–24 does not equal 100 because 3% of students in computer science courses were nonbinary.

Exhibit Reads: In 2023–24, 49% of students in Shasta were female. In 2023–24, 44% of students enrolled in a computer science course in Shasta were female.

The Educator Workforce Investment Grant’s Role in Supporting Computer Science Efforts

The Educator Workforce Investment Grant in Computer Science (EWIG: CS) has played a key role in supporting teacher training and course sustainability in Shasta. Programs like Seasons of CS have provided hands-on professional learning that the district would not have been able to offer on its own; four Shasta educators attended CSPDWeek in 2025. These opportunities are especially valuable for instructional coaches, new hires, and teachers without prior experience in computer science, helping them build skills with tools like Scratch, Minecraft, and resources from Code.org with confidence. Leaders emphasized that teachers often need more than a single training. They need time and repetition to build comfort, and EWIG: CS has filled that gap. As one leader noted, “EWIG has done a very good job of creating a lot of opportunities for staff . . . There’s a lot of different places for people to have that entry point.” The grant has also helped scale computer science professional learning across the district by creating internal champions who model the integration of computer science material into other content areas and help sustain momentum. District leaders view EWIG: CS as a critical support in building the long-term capacity to cement computer science in instruction.

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The Path Ahead

Shasta district leaders are pursuing several strategies to expand computer science access. High school leaders are working to expand course availability by addressing schedule limitations and staffing shortages. The district is exploring structural reforms such as block scheduling and a 7-period day to increase access.

To build long-term teaching capacity, Shasta is prioritizing recruiting educators who are enthusiastic about computer science and committed to growing the program alongside existing champions. Central office support—described by teachers and administrators as a key factor in their willingness to take on computer science—remains strong, and instructional coaches and teachers continue to attend trainings like Summer of CS and site visits at regional schools with strong computer science programs. These attendees bring back ideas and practices to share across sites. Leadership modeling also plays a role: Administrators have incorporated coding activities into meetings to normalize participation. This combination of teacher interest, administrative support, and peer-to-peer recruitment contributes to growing optimism that computer science programming will become a part of Shasta’s curriculum that is accessible to all.

The American Institutes for Research (AIR) has produced this case study as part of its evaluation of California’s Educator Workforce Investment Grant in Computer Science (EWIG: CS). It is one of six case studies designed to illustrate the contextual details, strategies, successes, and challenges that shape efforts to expand computer science education in the state. For more information on the AIR evaluation, including additional findings about the EWIG: CS grant, please visit <https://www.air.org/project/evaluation-educator-workforce-investment-grant-computer-science>



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