



Overview

Turlock Unified School District (USD) is in the early stages of expanding computer science opportunities across grade levels. Both comprehensive high schools offer courses such as Advanced Placement (AP) Computer Science Principles and Game Development, but access varies and depends on individual teacher initiative. Historically, district priorities have centered on literacy and math recovery, but recent efforts, including forming a computer science and artificial intelligence (AI) task force, signal a shift toward coordinated computer science planning. As the district works to align programs across the board and increase teacher interest, leaders describe this period as a “building and planning” phase toward a systemic approach to K–12 computer science education.



Turlock Unified School District

Turlock USD serves a growing, diverse agricultural community in the Central Valley. In a district of nearly 14,000 students, two large comprehensive high schools each enroll around 2,000–2,500 students and are supported by one junior high school, one middle school, and several elementary schools. The central office oversees general curriculum and secondary programming, yet each high school operates a single-person computer science department that develops its own coursework. At the middle and junior high school levels, computer science exposure happens in STEM electives and modules of math and science courses. Elementary access is limited to select classrooms taught by teachers who are involved in computer science. The district’s decentralized culture encourages teacher initiative and innovation but has led to uneven implementation across schools.

Before the COVID-19 pandemic, the district was ramping up elementary technology integration through Micro:bit training for sixth grade teachers. However, postpandemic emphases on literacy and math recovery put computer science and technology priorities on the back burner. Recently, leadership has reignited computer science planning through an internal computer science and AI task force and collaboration with partners at the Stanislaus County Office of Education. A district leader articulated the shared vision of the task force: “We believe we should teach

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This vision reflects a cultural shift in Turlock USD that acknowledges the importance of offering computer science education not only as a standalone elective, but as a foundation for college and career readiness. Seeing automation transform, local industries supported the district’s consensus that Turlock USD students need computer science skills to keep up with workforce demands. In the meantime, leaders are working to create stronger alignment and expand opportunities so that computer science becomes an established part of the average Turlock student experience.



Computer Science Course Offerings

Current computer science courses in Turlock are all standalone and vary by site. Both high schools offer computer science courses based on teacher capacity and interest. One site offers four courses—AP Computer Science A, AP Computer Science Principles, Exploring Computer Science, and Game Development—taught by a single teacher. The other offers two introductory courses: AP Computer Science Principles and Game Development. Between the two sites, seven class periods are dedicated to computer science.

At its junior high school, Turlock offers a robotics and applied technology elective created by a nonprofit organization that provides hands-on, project-based STEM and career readiness programs for PreK–12 students. At the middle school level, students have access to the Integrated Technology course, which enrolled 241 seventh- and eighth-grade students across four classes in 2022–23 and 192 students across five classes in 2023–24, and significantly boosted overall computer science participation in the district.

Exhibit 1. Computer Science Course Enrollment in Turlock USD

Year	Computer science students	Computer science courses
2018–19	48	2
2019–20	184	7
2020–21	191	11
2021–22	21	2
2022–23	310	12
2023–24	311	14

District leaders are beginning vertical articulation work to align and integrate computer science standards across grade levels. Although district representatives characterize implementation as fragmented and dependent on teacher initiative, one administrator explained, “The goal is to try to keep that variety but have it in a streamlined pathway for students.”



Computer Science Course Enrollment

Computer science enrollment in Turlock USD has grown steadily since 2021–22, when the district focused on pandemic recovery and temporarily prioritized core subjects over electives. Growth has been strongest at the high school level, but access varies by site and remains limited by staffing and scheduling—each high school has one computer science teacher, and class sections are capped within the master schedule.

Enrollment by Grade Level

Enrollment skews heavily toward upperclassmen at the high school level. Eleventh- and twelfth-grade students make up the majority of high school participants, while freshmen and sophomores face scheduling barriers due to required coursework in PE, science, and world languages. Seventh and eighth graders at the middle school have access to an Integrated Technology STEM elective serving roughly 100–120 students per grade, while seventh and eighth graders at the junior high enjoy robotics and applied technology through the Project Lead the Way elective. Elementary access remains minimal and dependent on teacher initiative. One exception is a magnet STEM elementary school, where a schoolwide effort incorporates coding and robotics into classroom instruction.

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Exhibit 2. Turlock USD 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
7	15%	0%	0%	0%	0%	28%	15%
8	15%	0%	16%	14%	0%	49%	47%
9	18%	12%	13%	28%	19%	3%	8%
10	18%	13%	12%	5%	0%	3%	4%
11	17%	29%	25%	28%	38%	7%	12%
12	15%	46%	33%	25%	43%	10%	14%

Source: CALPADS.

Exhibit Reads: In 2023–24, 18% of students in Turlock between Grades 7 and 12 were in Grade 10. In 2023–24, 8% of students enrolled in a computer science course in Turlock were in Grade 10.

Enrollment by Race/Ethnicity

Enrollment in computer science courses by race in 2022–23 and 2023–24 closely reflected percentages in the student body overall. This alignment in representation is a change over time; earlier years saw higher percentages of White students and lower percentages of Hispanic students taking computer science courses than their overall presence in Turlock schools.

Exhibit 3. Turlock USD 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
Asian	6%	13%	9%	10%	5%	7%	11%
Hispanic	61%	31%	48%	58%	43%	61%	59%
White	27%	42%	39%	30%	48%	28%	26%

Source: CALPADS

Notes. Demographic groups ‘Missing,’ ‘Black,’ ‘American Indian/Alaska Native,’ ‘Native Hawaiian/Other Pacific Islander’ are not included in the exhibit because the percentage of students in these groups is lower than 1%. The sum of the percentages may not equal 100%.

Exhibit Reads: In 2023–24, 61% of students in Turlock were Hispanic. In 2023–24, 59% of students enrolled in a computer science course in Turlock were Hispanic.

Enrollment by Gender

Male students are overrepresented in computer science courses across the district. Teachers note that female participation is improving in AP Computer Science Principles and Game Development, a development they attribute to teacher outreach. For example, one teacher who also coaches a female sports team successfully recruited team members to the AP Computer Science Principles course. As result, the comprehensive high school in which the teacher works received an AP Female Diversity Award for the 2024–25 academic school year. Recruitment efforts remain informal, but educators are aware of the need to encourage more girls to participate.

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Last year. . . I actually had more girls in [AP CS] than boys . . .
I’m excited to get [the AP Female Diversity Award] and kind of push that out there.
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Exhibit 4. Turlock HSD 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	48%	13%	27%	18%	52%	21%	25%
Male	52%	87%	73%	82%	48%	79%	74%

Source: CALPADS

Exhibit Reads: In 2023–24, 48% of students in Turlock were female. In 2023–24, 25% of students enrolled in a computer science course in Turlock 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 supported Turlock USD's efforts to expand computer science by giving teachers access to professional development that the district could not provide on its own. Through programs such as Seasons of CS and Summer of CS, 10 educators learned about aligned curriculum models, tools, and instructional strategies for teaching coding and computational thinking. District leaders describe these opportunities as "invaluable" and say they fill a critical training gap, especially for teachers without computer science backgrounds.

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The professional development
... was not something that our
district was offering, so to be
able to send teachers to those
trainings, it's just invaluable.
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During quarterly planning meetings held with faculty across Stanislaus County, administrators used EWIG: CS-supported professional learning to encourage middle-grade teachers to integrate computer science into their instruction. They report that it has strengthened collaboration between the district's teachers and administrators. Participation in Seasons of CS site visits inspired the district's two high schools to align course offerings, leading both to adopt AP Computer Science Principles and Game Development. The events also started conversations about building a vertical K–12 computer science pathway and increasing integration in noncomputer science subjects.

Teachers credit EWIG: CS workshops with building their confidence in teaching computer science and creating a sense of community across isolated programs. Although staffing and scheduling constraints have slowed implementation, leaders see EWIG: CS as a catalyst for long-term capacity building and a foundation for sustained computer science growth.



The Path Ahead

Turlock USD is focused on building a coherent K–12 computer science pathway and expanding equitable access across schools. Through district and county computer science and AI task forces, leaders are aiming to strengthen vertical alignment and create earlier access for younger students. Plans include balancing offerings between high schools, reinstating a computer science elective at the junior high school, hiring a full-time middle school computer science teacher and embedding computer science into existing STEM courses and Project Lead the Way at the elementary level.

To address student recruitment and inclusiveness, administrators, counselors, and teachers plan to actively encourage female and other underrepresented students to enroll in computer science through targeted outreach and by rebranding courses as creative and career-relevant. Moreover, the district expects counselors' involvement in the task force to ensure that outreach and scheduling decisions ultimately help the district bring enrollment numbers up across the board.

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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