

STEM CareerX 2024-2025



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BAYER



KAPALYA

California State University East Bay
Written by: Dr. Sagit Betser

THE PARTNERSHIP

The Institute for STEM Education at Cal State East Bay developed the STEM CareerX project as part of a collaboration with Bayer, the City of Berkeley Office of Economic Development, Berkeley Startup Cluster, and Berkeley High School Career Technical Education (CTE) .

MAIN GOALS

The main goals of this project are to expose historically underrepresented students in STEM to diverse STEM-based applications and careers in their community, empower and inspire them to pursue STEM education pathways, and strengthen the long-term connection between Berkeley High School CTE and local STEM companies.

KEY FINDINGS

Participation Overview

Over the course of the 2024–2025 school year, approximately 70 students and 4 educators participated in STEM CareerX, engaging with local STEM companies through a combination of site visits and on-campus presentations. In total, the program facilitated 159 student-visits, with many students attending multiple events. The table below summarizes the companies that participated, the number of students who visited, and which student groups were involved.

Students connected with companies working in fields ranging from biotechnology and advanced manufacturing to cybersecurity and AI. Five visits took place at company sites, while two companies—Magnitude.io and Windscape.ai—presented at the school due to the nature of their workspaces (small office-based environments without manufacturing or lab facilities).

One highlight of the year was a special visit to Bayer, hosted by the Bayer Women in Technology group. Twenty-eight female-identifying students —primarily juniors and seniors—participated in this visit, which focused on exposing students to a range of STEM careers and offering direct conversations with women professionals.

Company	Participants	Who are the students?
September 2024 - May 2025		
Kapalya – A cloud storage and cybersecurity company	23 Students 1 Educator	National Society of Black Engineers Jr. Club (NSBE) Hispanic Engineering and Science club (HES)
SkyDeck – A UC Berkeley incubator that supports tech startups	21 Students 2 Educators	National Society of Black Engineers Jr. Club (NSBE)

Company	Participants	Who are the students?
		Hispanic Engineering and Science club (HES)
Bayer – A global biotech and life sciences company	28 Students (all female-identifying) 2 Educators	Biotech Track National Society of Black Engineers Jr. Club (NSBE) Hispanic Engineering and Science club (HES)
Magnitude.io (<i>school-based visit</i>) – Helps students run science experiments in space	30 Students 2 Educators	Biotech Track National Society of Black Engineers Jr. Club (NSBE) Hispanic Engineering and Science club (HES)
Copper – Develops battery-operated induction ovens for energy-efficient cooking	6 Students 1 Educator	Robotics club Mechatronics class National Society of Black Engineers Jr. Club (NSBE)
Windscape.ai (<i>school-based visit</i>) – Uses AI to improve wind turbine performance	30 Students 2 Educators	National Society of Black Engineers Jr. Club (NSBE) Hispanic Engineering and Science club (HES) Robotics club Mechatronics class
Arris Composites – Creates advanced composite materials for industries like aerospace and footwear	21 Students 1 Educator	National Society of Black Engineers Jr. Club (NSBE)

How many STEM companies did you meet through the program this year?
(This includes both companies you visited and companies that came to the school.)

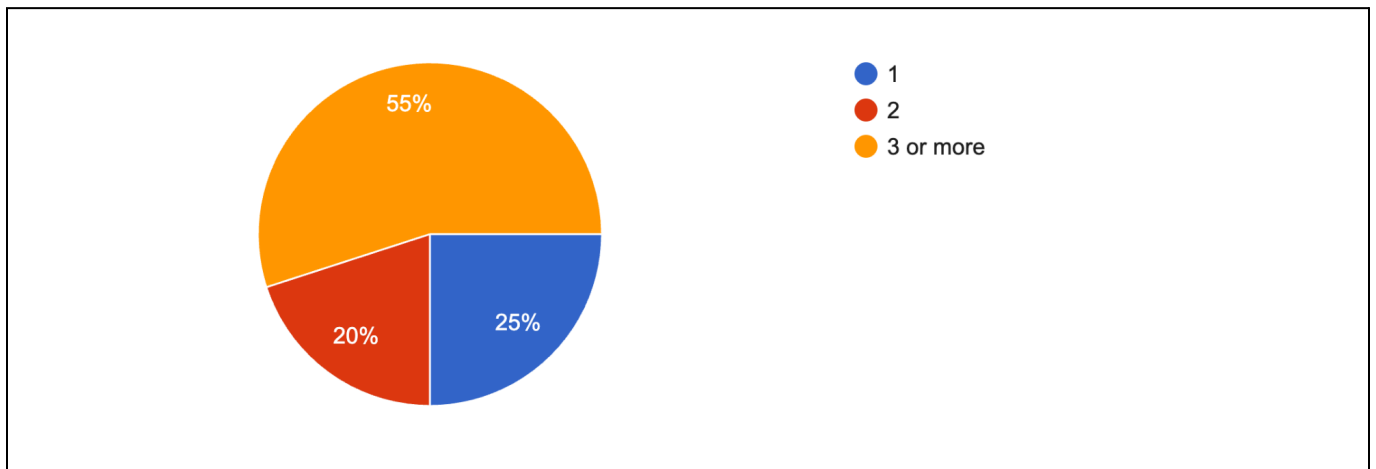


Figure 1

Quantitative Outcomes

Twenty students completed the end-of-year survey, providing feedback on the impact of the STEM CareerX program. Students responded to a series of reflection statements using a four-point scale: *Strongly Disagree*, *Disagree*, *Agree*, and *Strongly Agree*. Their responses point to a strong consensus that the program was valuable, relevant, and inspiring.

Key Findings:

- Students overwhelmingly valued the program. Every student (100%) said they would recommend participating in company visits to other students. Of those, 75% *strongly agreed*, while 25% *agreed*—a clear endorsement of the program’s overall success.
- The program effectively connected classroom learning to real-world STEM applications. All students (100%) agreed that the visits helped them see how STEM is used in the real world. Sixty-five percent *strongly agreed*, and 35% *agreed*.
- The visits deepened students’ understanding of STEM career paths. Ninety-five percent of students agreed or strongly agreed that they learned about different ways people enter STEM careers, with 60% *strongly agreeing*. Only one student (5%) expressed disagreement.
- The experience built students’ confidence in pursuing STEM. Every student (100%) agreed that they felt more confident about working in a STEM-related job in the future. Forty percent *strongly agreed*, and 60% *agreed*, indicating a strong increase in self-assurance.
- Students gained a clearer understanding of STEM job opportunities. One hundred percent of students reported that they better understood the types of jobs available in STEM. Forty-five percent *strongly agreed*, while 55% *agreed*, showing the program’s effectiveness in exposing students to career possibilities.

Qualitative Outcomes

Student reflections revealed that the STEM CareerX visits left a lasting impression, particularly in terms of broadening their understanding of career paths, deepening their interest in STEM fields, and shaping their thinking about the future.

A recurring theme was the realization that many STEM professionals did not follow a single, linear path into their careers. One student noted they were struck by “how many people started with lower jobs in the same field and worked their way up,” while another shared, “From every visit I’ve attended I learned that everyone starts from scratch and tries their best to achieve what they wanted to do in their company. Also, being a good critical thinker plays a big role as a STEM major.” These insights helped demystify STEM careers and made them feel more accessible. Students also expressed a greater sense of belonging and possibility within STEM.

One wrote, “There’s so many pathways within STEM that I truly believe there’s a path for everyone,” reflecting a broader shift in perspective about who belongs in STEM fields and how to get there.

The visits highlighted important values. As one student reflected, “The Arris Composites field trip taught me the importance of perseverance.” The visits also encouraged students to reflect more deeply on their own futures. Many reported that the experience either confirmed or expanded their career interests. One student shared, “These visits have fully shown me the scope of possibilities and opportunities within STEM,” while another said, “It makes me more passionate about my goals and more confident in my ability to achieve them.” Others described new aspirations: “It affected me by kind of steering me more towards STEM and so now I want to study neuroscience.” Another added, “It gave me a glimpse of what my future could look like.” This theme of increased confidence—in their goals, skills, and sense of direction—emerged across many responses. Students left the program more informed about STEM careers and empowered to see themselves pursuing them.

Overall, the qualitative feedback affirms that the company visits were informative and motivating. They helped students connect classroom learning to real-world careers, imagine new possibilities, and take ownership of their future paths in STEM.

Visit Spotlight: Bayer Women in Technology

The visit to Bayer was a standout experience in the STEM CareerX program. Hosted by Bayer’s Women in Technology and GROW employee resource groups, the visit brought 28 female-identifying Berkeley High School students—many involved in school-based STEM clubs (e.g. National Society of Black Engineers Jr, Hispanic Engineers & Scientists, Biotech)—for a full day of learning, interaction, and inspiration.

Students toured Bayer’s cell therapy labs and packaging operations, which support the global distribution of critical medicines. A highlight of the visit was a hands-on clean room demonstration, where students suited up in protective gear used in pharmaceutical production. This activity gave them a tangible sense of the precision and care required in biotech environments, bridging the gap between classroom learning and industry practices.

During the facility tour, students met women working in production and quality assurance roles and had the chance to speak with them directly in their work environments. These conversations offered insight into day-to-day responsibilities and highlighted the diverse paths into STEM careers. The opportunity to connect with professionals in context helped students imagine themselves in similar roles. One senior shared that the experience “made me feel calmer and less anxious about the future,” realizing that “there are many ways to build a career path.”

The visit concluded with a panel discussion featuring employees from across the

organization—including roles in science, warehouse operations, and logistics. Panelists spoke honestly about the twists and turns in their careers, offering students valuable insight into the many ways people find their place in STEM

Visit Spotlight: Long-Term Partnerships in Action – Copper

One of the most meaningful aspects of the STEM CareerX program is its ability to build and sustain long-term relationships with local companies—relationships that deepen learning for students and educators while also strengthening community ties for the companies themselves.

This year’s visit to Copper was a powerful example. Two years ago, students and teachers visited Copper when it was just starting out—a small, early-stage startup. When the group returned this year, they found a company that had grown significantly: a larger space, a bigger team, and real market momentum. The value of this visit extended beyond those who had been there the first time. One student who had attended the earlier visit shared their perspective, helping classmates visualize the startup’s growth. For students and educators alike, this kind of continuity adds dimension and context that a single visit cannot provide. Equally, for Copper and the program, coming back was a meaningful reflection of growth and connection. These ongoing relationships reinforce a sense of shared investment in the local innovation ecosystem—where students, educators, and companies learn and grow together.

CONCLUSION

The 2024–2025 STEM CareerX program successfully delivered on its mission to broaden access to STEM careers for historically underrepresented students. Through direct exposure to local companies, hands-on learning experiences, and conversations with professionals in the field, students gained clearer insight into real-world STEM pathways and greater confidence in their own potential.

Survey results and student reflections show that the program increased understanding of STEM careers and inspired students to imagine themselves within those roles. The consistent themes of curiosity, motivation, and empowerment highlight the value of continuing and expanding partnerships between local industry and education.

As we look ahead, the outcomes from this year affirm the importance of sustained collaboration—with school staff, companies, and community partners—to ensure more students have meaningful opportunities to explore and envision a future in STEM.