Berkeley Engineering

K–12 Outreach

2023-24 Engagement Report

Berkeley Engineering's K-12 Outreach Team aims to diversify the engineering pipeline by providing educational opportunities for all students — whether or not they're UC-bound. To achieve that, we're creating a robust, impactful K-12 outreach program that reaches California students from kindergarten through twelfth grade. We believe that all students benefit from exposure to engineering and, more broadly, to STEM and scientific thinking — regardless of their future careers.

From June 2023 to May 2024, over 2,300 students participated in Berkeley Engineering's K-12 outreach activities, including our Girls in Engineering summer camps, campus visits, presentations, and virtual events. We're thrilled to have reached more than twice the students we served last year! We expect the number of participants in our activities to fluctuate based on the types of requests we receive from schools and organizations, and we are committed to reaching as many students as possible in a meaningful, impactful way.

Through our Engineering Ambassador (EA) program, a dedicated group of engineering undergraduate students impact K-12 students through activities such as campus tours, presentations, and virtual events. Our fantastic ambassador students not only help us reach more students but also bring a critical perspective and energy that our local schools and community organizations highly value. The ambassadors also enhance their communication skills by participating in one of the Engineering Ambassador Network's annual training workshops, such as the West Coast workshop that we hosted in 2023. We are delighted that all seven non-graduating ambassadors are returning for 2024-25, and we are also excited to welcome four additional ambassadors.

Goals and Metrics

During 2022-23, we developed metrics based on our goals:

- Increase students' awareness and understanding of engineering, especially among groups that are underrepresented in engineering
- Increase educators' understanding of engineering
- Increase students' interest in pursuing engineering careers
- Increase the degree to which educators encourage students to pursue engineering

To reach our goals, we continue to prioritize activities with California schools and organizations that serve students with less access to STEM opportunities or students from populations historically marginalized in STEM.

Engagement metrics and data

To track progress toward the above goals, we developed targets for the number of students we engage with and the number of activities we run. Since we want the students we serve to be reflective of the Bay Area's K-12 student population, we also created demographic targets.

	Engage with **x K-12 students**	Run **y activities/events** for K-12 students	**α** % who qualify for the **school meal program**	**β** % of **female** students	**ɣ** % of **URM** students
Bay Area estimates, 2023-24			*43%*	*50%*	*46%*
2021-22	655	11	35%	62%	42%
2022-23	882	23	32%	55%	51%
2023-24 goal	*800*	*20*	*31%*	*>55%*	*44%*
2023-24 actuals	2,383	50	54%	49%	78%

Engagement year definition: June 1 - May 31, YYYY *Targets were developed in 2022-23*

α: percentage of students who qualify for free or reduced-price school meals (FRPM); used as a proxy indicator of income

ɣ: percentage of underrepresented minority (URM) students, as defined by the National Science Foundation and UC Berkeley (Hispanic/Latino, African American/Black, American Indian/Alaska Native, Native Hawaiian/Pacific Islander)

We developed our income and diversity targets in 2022-23 by analyzing the demographic trends of K-12 students enrolled in public schools in the nine Bay Area counties. The most recent demographic data shows new trends. For example, from 2019-2020 to 2021-22, the percentage of students qualifying for free or reduced-price meals (FRPM) decreased from 39.6% to 37.5%. This trend recently reversed, as the FRPM rate increased to 40.1% in 2022-23 and 42.6% in 2023-24. Similarly, before 2021-22, the fraction of URM students had been relatively steady at about 44%, but this figure has also been increasing recently, and in 2023-24 it was 45.8%.

We plan to develop updated target metrics every two years, with the next round of targets developed during 2024-25. We will consider our progress and the most recent demographic trends when setting our new goals.