

870+  
Participants

23  
Outreach  
Activities

Hired first  
Engineering  
Ambassador  
cohort

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 2022 to May 2023, over 870 students participated in Berkeley Engineering's K-12 outreach activities, including our Girls in Engineering summer camps, campus visits, and presentations.

We also hired our first Engineering Ambassador cohort. Our inaugural cohort brought a wide range of perspectives, was passionate about diversifying engineering, and provided excellent thought partnership. We are thrilled that four of the five non-graduating ambassadors are returning for 2023-24. In future years, we expect to move experienced student ambassadors into leadership positions, making it possible to streamline operations and grow our ambassador program.

### 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 aim to grow our activities and continue to prioritize activities with California schools and organizations that serve students with less access to STEM opportunities or students who are from populations historically marginalized in STEM.

**Engagement metrics**

To track progress toward the above goals, we developed targets around the following metrics:

- Engage with **X K-12 students** per year
- Run **Y activities/events** for K-12 students per year
- **Students’ demographics** are reflective of the Bay Area’s K-12 student population
  - **α**: percentage of students who qualify for free or reduced-price school meals (FRPM) (used as a proxy indicator of income)
  - **β**: percentage of female students
  - **γ**: percentage of underrepresented minority (URM) students, as defined by the National Science Foundation (Hispanic/Latino, African American/Black, American Indian/Alaska Native)

**Engagement data and goals**

*Engagement year definition: June 1 - May 31, YYYY*

	Engage with <b>X K-12 students</b>	Run <b>Y activities/events</b> for K-12 students	<b>α</b> % who qualify for <b>FRPM</b>	<b>β</b> % of <b>female</b> students	<b>γ</b> % of <b>URM</b> students
<i>Bay Area estimates, 2022-23</i>			<i>36%</i>	<i>50%</i>	<i>45%</i>
2021-22	655	11	35%	62%	42%
2022-23 goal	700	16	30%	>55%	43%
2022-23 actuals	882	23	32%	55%	51%

We developed income and diversity targets by analyzing the demographics of K-12 students enrolled in public schools in the nine Bay Area counties and considering the rate of demographic change in recent years. In 2021-22, the average percentage of students qualifying for free or reduced-price meals was 37.5%, and the ratio has been decreasing by

about one percent a year. The percentage of URM students has been relatively steady, and in 2021-22 was 44.6%.

We plan to develop new target metrics every two or three years. We are also creating surveys for educators and students that will help us better understand the impact of our activities. We plan to start implementing these surveys in the fall of 2023.