



**CAL POLY**  
College of Engineering

# CAL POLY COLLEGE OF ENGINEERING STRATEGIC GOALS

**2022-2027**








## Message from the Dean

**T**HE 2022-2027 COLLEGE OF ENGINEERING STRATEGIC PLAN charts a clear path forward for the college. Formed over the course of a one-year period, from December 2021 to December 2022, the plan integrates feedback from more than 1,600 stakeholders including students, faculty, staff, alumni and industry partners. A 15-person strategic planning committee of faculty, staff and students reviewed all the feedback and used it to create the impactful plan we see today. This strategic plan integrates our focus on diversity, equity and inclusion into our mission, vision and goals. You will see that we have reaffirmed our enduring commitment to providing an exceptional Learn by Doing, hands-on education, and added a focus on creativity, innovation, sustainability and making a positive impact on society. Moving forward, this strategic plan will inform where the college focuses time and resources over the next five years and I look forward to seeing what we will collaboratively accomplish.



**Amy S. Fleischer**  
Dean, College of Engineering



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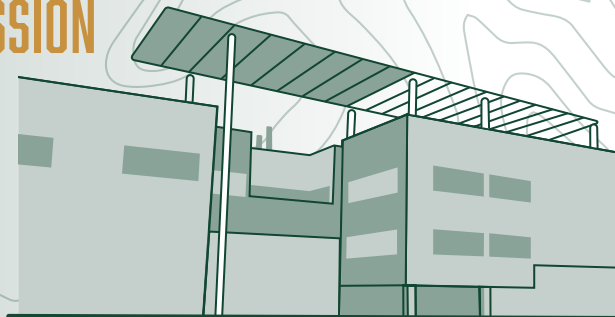


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# Mission, Vision and Values

## COLLEGE OF ENGINEERING MISSION

To provide an excellent Learn by Doing Engineering and Computer Science education that empowers all of our students to innovate, design and create sustainable solutions to real-world challenges.



## CENG VISION

The Cal Poly College of Engineering will be nationally recognized for its rapidly diversifying student population and unique, inclusive Learn by Doing educational and applied research experiences.

## COLLEGE OF ENGINEERING VALUES



### Collaboration

We build a thriving CENG community that encourages collaboration and connection both internally and externally.



### Growth

We commit to the growth and development of our students, faculty, staff and college.



### Diverse, Equitable, Just and Inclusive Community

We are dedicated to diversifying CENG and ensuring a diverse, equitable, just and inclusive experience for students, faculty and staff.



### Excellence

We prepare students with an outstanding applied education to make a positive impact on society.







# Strategic Priority: Excelling in Teaching and Scholarship

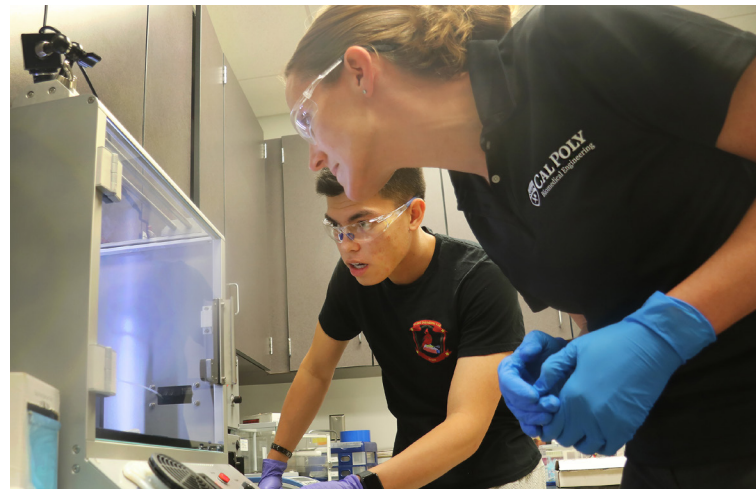
**GOAL** — Expand Learn by Doing activities and infrastructure with an emphasis on cross-disciplinary opportunities which support curricular and co-curricular threads on societal challenges, data literacy, systems thinking, ethics, justice, equity, diversity and inclusion.

## Actions will include:

- Renovate and upgrade Learn by Doing facilities across the college
- Develop vibrant faculty communities of practice focused on each curricular thread
- Integrate curricular thread topics into required course curricula
- Expand interdisciplinary collaborations
- Expand Learn by Doing student opportunities related to the curricular threads

## Metrics will include:

- Percentage of students taking required courses in at least one of the curricular thread topics
- Percentage of students participating in clubs and co-curricular Learn by Doing activities
- Number of Learn By Doing facilities upgraded



**GOAL** — Increase support for the teacher-scholar model by creating and promoting curricular, co-curricular and extracurricular faculty and student research opportunities.

## Actions will include:

- Expand faculty/student applied research opportunities
- Build active research communities in CENG faculty on topics such as engineering education research, climate change and sustainability
- Expand faculty/student applied research opportunities with industry and national labs
- Launch college research seminar series
- Support and grow Summer Undergraduate Research Program

## Metrics will include:

- College/department-funded research support
- College-sponsored research workshops
- Number of students and faculty engaged in research





# Strategic Priority:

## Ensuring Equitable Student Success



**GOAL —** Provide clear and realistic pathways in each degree program for transfer students to graduate in two years.

**Actions will include:**

- Development of clear and equitable transfer student pathways for all degree programs
- Expansion of community college partnerships and course articulation agreements
- Appointment of “transfer student champions” in each department

**Metrics will include:**

- Graduation rates across all demographics

**GOAL —** Identify systemic challenges to graduation rates and implement strategies to mitigate with a focus on achieving equitable outcomes for all students.

**Actions will include:**

- Removal of structural barriers to graduation within our curricula
- Regularly offer workshops focused on achieving equitable outcomes
- Develop and implement summer support programs

**Metrics will include:**

- Graduation rates across all demographics





# Strategic Priority:

## Fostering a Welcoming, Supportive, Just, Equitable, Inclusive and Diverse Environment

**GOAL** — Show continual and measurable improvement in the diversity of the CENG community so that our students, faculty and staff better reflect the demographics of the state of California and exceed national averages for engineering representation.

### Actions will include:

- Recruit and retain faculty committed to creating equitable and inclusive educational experiences
- Expand pipeline activities in K-12 partner schools
- Expand activities focused on ensuring students offered admission chose to join Cal Poly at equitable rates across all demographics
- Highlight alumni success stories in our recruiting
- Expand scholarship support



**GOAL** — Develop an inclusive college culture where actions and policies support the equitable success of the entire CENG community and where everyone is valued for being their own unique self.

### Actions will include:

- Review and revise college policies to ensure equitable success of the entire college community
- Grow and expand workshops on the intersection of justice, equity, diversity and inclusion in engineering education and the student experience
- Integrate evidence-based assessment strategies into coursework to support equitable outcomes
- Implement activities focused on fostering an inclusive college culture

### Metrics will include:

- Steady increases in percentage of students, faculty and staff who report feeling a sense of belongingness in CENG through culture assessment
- College events that promote community engagement and celebrate/support the culture of those traditionally underrepresented in engineering and computer science
- College policies reviewed and revised with an emphasis on equity and transparency





# Strategic Priority: Empowering Personal and Professional Development

**GOAL —** Expand student professional development and networking opportunities.

**Actions will include:**

- Integrate professional guidance (career paths, resume writing, interviewing skills) into the curricula
- Promote and expand international opportunities for students
- Promote and expand opportunities for student-alumni engagement

**Metrics will include:**

- Student networking opportunities with industry and alumni
- Professional development integration into the required curriculum
- Number of students who study abroad



**GOAL —** Increase funded opportunities for faculty and staff to participate in professional development.

**Actions will include:**

- Develop professional development plans for all staff
- Expand the new faculty development program
- Increase transparency and equity in faculty professional development funding

**Metrics will include:**

- Number of faculty and staff who participate in funded professional development training, workshops or conferences





# Recent Actions:

## Diversity, Equity and Inclusion

The 2022-2027 strategic plan builds on the hard work the college has undertaken over the past few years to ensure an excellent Learn by Doing education for our diverse student body. We celebrate our successes.

**20%** increase in 4-year graduation rates

**9 percentage point** decrease in underrepresented minority graduation rate gaps

Student enrollment increased from historically underrepresented populations, including:

**29.8%** Women, exceeding national average of 24.6% rate gaps

**9%** Multi-racial enrollment, more than double the CA average of 4%

Faculty tenure-track cohort was:

**27%** women and **18%** Latino in recent years

**130+** Attendees to the collegewide lecture on engineering culture and student belonging





# Recent Actions:

## Diversity, Equity and Inclusion

The following represent some of the actions undertaken to support our Diversity, Equity and Inclusion Action Plan for 2019-2022

*Goal: Cultivate an inclusive college culture and eliminate all forms of oppression*

- In winter 2022 a cohort of 15 college faculty members took training on inclusive classroom teaching. This training will be repeated regularly
- Content addressing diversity, equity and inclusion were introduced into required classes in civil engineering, environmental engineering and biomedical engineering. Mechanical engineering developed a new elective in social justice and engineering
- The college introduced a DEI day of learning in which faculty and students led workshops on integrating inclusivity in the college actions

*Goal: Strive for a diverse CENG community and exceed national averages for representation in engineering programs*

- Three college majors enroll more than 50% women students (environmental, biomedical and liberal arts/engineering studies) and the college student population is approaching 30% women
- The demographics of the entering first-year class better reflect the demographics of the state of California than in the past, and is 38% white, 24% Hispanic/Latino, 9% Multiracial and 23% Asian/Pacific Islander
- In fall 2022 the college launched a 16-person faculty cohort hire with a focus on hiring for experience in implementing inclusive and equitable engineering educational experiences along with excellence in their disciplinary topics and in implementing Learn by Doing

*Goal: Increase graduation rates and achieve equitable outcomes for all students*

- The 2021 six-year graduation data showed that 82.3% of URM students graduated compared to 87.7% of non-URM students, a difference of 5.4 percentage points. This gap was 13.8 in 2017 and 9.7 in 2020
- The 2021 six-year graduation data showed that 87.7% of non-Pell eligible students graduated compared to 81.8% of Pell eligible students, a difference of 5.9 percentage points. This gap was 8.5 in 2017
- The 2021 two-year graduation data for transfer students showed that 11.8% of students graduated, an increase from 5.1% in 2019 and 8.9% in 2020. The transfer student four-year graduation rate is over 86%







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# **College of Engineering Strategic Plan**

**2022-2027**

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