Program Review Update 2025

Program: Engineering (Transfer) and Engineering Technology (CTE)

Division: STEM

Writer(s): Jennifer Decker

SLO/SAO Point-Person: Jennifer Decker

Email your completed form to Karin Spirn and your dean by November 3.

Helpful Links:

- ★ Tools for Writers - with contacts and info for help with specific sections.
- ★ Program Review Glossary - defines key terms you can review when writing.
- ★ Discipline Data Packets – institutional research about disciplines and student services
- ★ Course Success Rates Dashboard – allows you to research your program's success rates

Detailed information and instructions appear at the end of this form. For help, please contact Karin Spirn at kspirn@laspositascollege.edu.

---

1. Please describe your program's most important **achievements** in year 24-25.

- Las Positas College awarded a total of 13 engineering degrees and certificates. These included 3 AS degrees in Engineering**,** 2 AS degrees in Electrical Engineering – UC Pathway**,** 1 AS degree in Electrical Engineering**,** 6 AS degrees in Engineering Technology**,** and 1 Certificate in Engineering. This data indicates consistent program productivity and support both transfer and technical career pathways.
- LPC engineering students transferred successfully to multiple UC campuses and majors. Although official UC transfer data lags, the following data was informally collected by the Engineering Discipline Coordinator:
    - 10 students transferred to UC Berkeley, UC San Diego, UC Irvine, and UCLA, with concentrations in Mechanical, Electrical, Bioengineering, Structural, and Computer Engineering**.**
    - The largest groups transferred to UC Berkeley (3 students) and UCLA (3 students)**,** demonstrating strong preparation for competitive UC engineering programs.
- LPC engineering students also transferred successfully to multiple CSU campuses and majors, demonstrating strong program outcomes. (Data collected from Cal State Data Center)
    - A total of 27 students transferred into CSU engineering programs across 7 campuses. The largest group transferred to San José State University (10 students), primarily in Electrical and Computer Engineering.
    - Other popular destinations included Sacramento State (6 students) and Cal Poly Pomona (4 students).
    - Students entered a wide range of disciplines — Mechanical, Electrical, Civil, Chemical, Computer, Industrial, Mechatronic, and Astronautics Engineering — reflecting the program's versatility and alignment with diverse engineering pathways.
- From Fall 2023 to Fall 2024, student headcounts increased by 25% and course enrollments increase by 30%. From Spring 2024 to Spring 2025 student headcounts and course enrollments increased slightly.

Program Review Update 2025

- Enrollment in all engineering courses continues to be strong. Both ENGR 26 and ENGR 35, courses offered only once a year, had waitlists of 14 and 17 respectively.
- Las Positas College completed the second year of its National Nuclear Security Administration (NNSA) Minority Serving Institution Partnership Program (MSIPP) grant in collaboration with Lawrence Livermore National Laboratory (LLNL). Through LPC Community Education, the program offered career technical workshops in Welding, Vacuum Technology, CREO, and Laser Optics during the 2024–2025 academic year, serving a total of 89 students.
- Students have come together to create a Robotics Club with our Lab Technician, Will Kossow, as their advisor. Students are regularly meeting multiple days a week to work on a robotic arm that they have developed.
- Our Women in STEM club continues to be active meeting every other week throughout the year, participating in all campus wide club activities, hosting a panel of women engineers and computer scientists from LLNL, and finding a new set of officers for the coming year.

2. Please describe your most important **challenges** in year 24-25.

- The implementation of Compressed Calendar will have a detrimental effect on the ability of STEM students to retain the information being learned to prepare them for transfer, as well as complete their graduation and/or transfer requirements in a timely manner.
    - Engineering students face significant scheduling challenges under the compressed calendar. STEM courses, including engineering, require high unit loads and multiple contact hours per course. The longer class blocks reduce the total number of available blocks, making it difficult to create a schedule that allows students to complete all required courses each semester. This may lead to course conflicts, limited access to required engineering classes, and potential delays in graduation. While STEM faculty will collaborate to minimize these issues, the Engineering Department—being one of the smaller programs—often has limited access to preferred scheduling blocks, further complicating course planning for both faculty and students.
    - As the enrollments in physics increase, the engineering department needs to be able to accommodate more students in our transfer level engineering courses. This is going to be even more challenging as we move to the Compressed Calendar.
    - Transitioning classes to the new model will require substantial effort to redesign content and lab schedules. There is currently no compensation for this additional work, raising concerns about the potential impact on adjunct faculty availability. Moreover, full-time faculty will need to manage these tasks in addition to their existing workload responsibilities.
- The full-time Engineering faculty position carries an extensive workload that exceeds the current 1.0 CAH reassign time allocation. Responsibilities include coordinating both the Engineering Transfer and Engineering Technology (CTE) programs, teaching multiple courses across different engineering disciplines each semester, and managing departmental SLO assessment and reporting. The faculty member also serves as Principal Investigator for the NNSA MSIPP Grant, participates in Building 1800 renovation planning**,** and engages in college-wide service, outreach, and recruitment activities**.** In addition, ongoing collaboration with industry partners and transfer universities requires significant time for developing new curriculum, establishing transfer pathways, and creating project-based learning opportunities. Collectively, these duties place a substantial strain on available faculty time and resources.

- The Engineering and Welding departments currently lack sufficient FTEF to fully support their native programs (Engineering Transfer and Welding) in addition to the Engineering Technology Program. To address this, the Engineering Department plans to offer ENGR 50 every other semester to ensure student completion. Students may complete the pathway through either ENGR 50 or the combination of WLDT 63 and WLDT 79. The Welding Department has been unable to offer WLDT 79 for over two years and does not plan to offer WLDT 10, a required course, in the upcoming academic year.
- The Engineering Department continues to face challenges in recruiting and retaining qualified instructors. This issue is expected to intensify with the transition to a compressed calendar in Fall 2025**,** as many current instructors work full time in industry or teach at multiple colleges, making it difficult to accommodate longer instructional time blocks.
- ENGR 26 – Computational Methods is the only articulated course fulfilling the MATLAB requirement, attracting students from engineering, computer science, data science, and applied math. This wide range of majors creates a significant challenge, as the course's engineering-focused examples and applications often do not meet the needs or expectations of non-engineering students.
- The STEM department must identify a sustainable method to cover the cost of essential engineering software, such as SolidWorks and MATLAB. Currently, students are required to purchase MATLAB themselves, a practice that is uncommon at other community colleges.

3. What SLO(s) or SAO(s) if any did your program assess or discuss since your last program review? Please describe any findings and planned actions.

- The full-time faculty member input data for the 2024-2025 year into eLumen, however did not run the appropriate reports before it went offline in June.
- Challenges remain in engaging part-time faculty to contribute SLO data. Although reminder emails were sent, the SLO coordinator has not had sufficient time to meet with part-time faculty—many of whom work full-time in industry or at other colleges—to provide training on the process. The upcoming implementation of CurricUNET Meta is expected to improve the efficiency of SLO data collection.
- Using the Course Success Rate Dashboard, overall student success increased from 70% to 71% and there was also an increase in enrollment from 295 to 361.
    - Engineering 23 maintained a 64% success rate.
        - This is the first engineering course that is content heavy, so it is often challenging when students move from Engineering 1 to Engineering 23.
        - The department would like to work to get an embedded tutor in this course.
    - Engineering 37 had a 53% success rate.
        - This has historically been the most challenging course in the Engineering Technology program.
        - Curriculum has been launched during Fall 2025 to increase the units on this course from 3 to 4 units to allow the instructor to spend more time on instruction and students to have more time to practice problem solving while in class.
        - The department hopes to have a tutor for this class in the future.

4. What are your upcoming plans? Please note any ways that these support student achievement and equity.

- Address course scheduling, optimize lecture and lab pacing, and resolve hiring challenges associated with the compressed calendar.
- Work with the STEM Division Dean to create a job advertisement for hiring additional engineering part-time faculty.
- Research ways our department can work with the Association of Mechanical Engineers (ASME) to create project and/or internship opportunities for our students.
- Collaborate with local universities (UCs, CSUs, Private) to create transfer pathways and provide opportunities for students to learn more about these colleges.
- Collaborate with other CA community college engineering departments to learn best practices when it comes to supporting students and providing equitable outcomes.
- Evaluate whether all current degree pathways are necessary and consider consolidating for easier planning and assessment.

CTE REPORT (CTE DISCIPLINES ONLY)

1. Does this program continue to meet a labor market demand?

- Yes or No: Yes
- Explanation/evidence:
  There are projected to be 5,524 jobs in 2026 related to Engineering Technologists and Technicians, Except Drafters in 4 local California counties (Alameda, Contra Costa, San Francisco and San Joaquin). There were an average of 151 monthly job postings over the last year and an average of 117 monthly hires. The retirement risk for this area is slightly above the national average at 1,493 employees 55 or older.

2. Are there similar programs in the area? If yes, list the programs and their institutions.

- Yes or No: No
- Explanation/evidence: After a thorough search, there were no publicly available listings of Bay Area community colleges that specifically offer a degree under TOP code 17-3020 (Engineering Technologists and Technicians, Except Drafters)**.**

3. Has the program demonstrated effectiveness as measured by the employment and completion success of its students? Provide employment and completion success based on Perkins Core Indicator Report.

- Yes or No: Not Enough Data
- Explanation/evidence: This program has eight concentrators. The Engineering Technology General (requiring Trigonometry) program has eight concentrators and, therefore, is not statistically valid and does not have ratings within the Perkins V 2025-26 Core Indicators. The program's demonstrated effectiveness, as measured by the employment and completion success of its students, cannot be determined based on this data. In addition, the data shows eight concentrators but zero students in the headcount, indicating an error. Note: Engineering Technology, General (092400) is not considered a non-traditional program (both male and female exceeding 25% employed in the occupation), and therefore, it will show no data within the indicator.

4. Does the program provide opportunities for review and comments by local private industries? Attach most recent Advisory Committee meeting minutes.

- Yes or No: Yes
- Explanation/evidence:
  - Fall 2024 Advisory Agenda, Slide Deck, Meeting Minutes
  - Spring 2025 Advisory Agenda, Slide Deck

Detailed Instructions and Information

Instructions:

1. Please answer each question with enough detail to present your information, but it doesn't have to be long.
2. If the requested information does not apply to your program, write "Not Applicable."
3. Optional/suggested: Communicate with your dean while completing this document.
4. Send an electronic copy of this completed form to Program Review chair Karin Spirn and your Dean by November 3.
5. Even if you don't have much to report, we want to hear from you, so your voice is part of the college planning process.

Audience: Deans, Vice Presidents of Student Services and Academic Services, All Planning and Allocation Committees. This document will be available to the public.

Uses: This Program Review will inform the audience about your program. It is also used in creating division summaries, determining college planning priorities, and determining the allocation of resources. The final use is to document the fulfillment of accreditation requirements.

Please note: Program Review is NOT a vehicle for making requests. All requests should be made through appropriate processes (e.g., Instructional Equipment Request Process) or directed to your dean or supervisor.

Time Frame: This Program Review should reflect your program status during the 24-25 academic year. It should describe plans starting now and continuing through 2025-26. It is okay to include information outside of these time windows as needed.

Program Review Process: Comprehensive Program Reviews will be completed every three years, in alignment with the SLO/SAO cycle. On the other years, programs will complete an update.

SLO/SAO Process: SLOs and SAOs should be assessed according to a three-year plan, with comprehensive reporting on the third year. For more information, contact SLO chair John Rosen: jrosen@laspositascollege.edu

Equity is a guiding principle. Here is the LPC definition:

Las Positas College will achieve equity by changing the impacts of structural racism, ableism, homophobia, and systematic poverty on student success and access to higher education, achieved through continuous evaluation and improvement of all services. We believe in a high-quality education focused on learning and an inclusive, culturally relevant environment that meets the diverse needs of all our students.

LPC Equity Definition: Equity is parity in student educational outcomes. It places student success and belonging for students of color and disproportionately impacted students at the center of focus.