

De Anza College

Program Review – Annual Update Form – Fall 2025

1. Department/Area Name

PMSE/Engineering

2. Name of individual(s) completing the form:

Saied Rafati/Mehrdad Khosravi

3. Briefly describe how your area has used the feedback from the Comprehensive Program Review and Annual Program Review Update provided by RAPP members over the past two years (if unsure, request the feedback form from your dean/manager).

Feedback from the Comprehensive Program Review guided the department in refining its strategies for improvement, particularly in strengthening equity-driven practices and expanding opportunities for hands-on learning. In response to RAPP's request for clearer explanations of faculty staffing needs, the department clarified the distinction between overall instructional demand and the expertise required to teach new and advanced engineering courses. We also expanded equity-focused initiatives by increasing access to applied learning through the establishment of the new E37 laboratory and the acquisition of updated instructional equipment. These steps reflect our commitment to using RAPP's feedback to guide program development and ensure that student support continues to evolve.

4. Describe any changes or updates that have occurred since you last submitted program review (program review [submissions](#)).

Significant updates have occurred since the last comprehensive program review. The department established a fully equipped laboratory for Introduction to Circuit Analysis (E37), providing a high-quality hands-on learning environment for all students. Two new transferable courses—Engineering Materials(E45) and MATLAB(E11)—were developed to strengthen the department's alignment with university expectations and better support students preparing for engineering pathways. A new engineering certificate program was also created to help students gain both academic preparation and local workforce-relevant skills. Each quarter, the department continues to offer 5–6 engineering sections taught by one full-time instructor and two part-time instructors. To support the new laboratory structure, the department hired an additional part-time instructor to teach the E37 lab each quarter. As the curriculum expands, the department now requires additional faculty with specialized expertise in Engineering Materials(E45) and MATLAB (E11) to ensure strong course delivery and continued growth.

5. Provide a summary of the progress you have made on the goals (i.e., OKRs for Student Services) identified in your last program review (as included in the comprehensive program review or annual program review update).

Goal title	Goal description	Responsible parties	Collaboration with....	What evidence have you used to monitor progress?	How have you assessed your goal?	What changes have been made based on the assessment?
Curriculum Expansion	Develop new transferable engineering courses and establish a new engineering certificate to strengthen student pathways.	Engineering Department Faculty	Curriculum Office	Completion and approval of new CORs for Engineering Materials (E45), MATLAB (E11), and the engineering certificate; scheduling of E37 for its first offering next quarter; preparation of lab materials and equipment.	Assessed by reviewing curriculum approval milestones, the readiness of instructional materials, and successful scheduling of new offerings, since no new courses or certificates have yet been launched.	Adjusted implementation timelines, ensured course alignment within the certificate structure, and prioritized launch readiness for E37 while continuing preparation for future offerings of E45 and E11.
Instructional Modernization	Improve laboratory infrastructure and instructional materials to support hands-on learning in engineering.	Engineering Department Faculty	Divion Dean	Completion of E37 lab setup; installation of new equipment; development of laboratory exercises; hiring of a part-time instructor to teach the lab in its first quarter.	Assessed by reviewing progress toward lab readiness, equipment installation, and instructional preparation, since the course has not yet begun.	Finalized lab procedures, confirmed scheduling of E37 for next quarter, and refined instructional materials to prepare for the first offering.

6. If your goals (i.e., OKRs for Student Services) are changing or you are adding a new goal(s), please include them below. If new goals require resources, please list requested resources that were not included in your last program review.

Goal title	Goal description	Responsible parties	Collaboration with....	What evidence will you use to monitor progress?	How will you assess achievement of the goal?
Technical Skill Integration	integrate programming, data analysis, and applied laboratory skills across engineering courses, including MATLAB, Engineering Materials, and E37 lab.	Engineering Faculty	Curriculum Office	Completion of course development steps, creation of lab modules, readiness of instructional materials, and hiring faculty with appropriate expertise.	Assessment of course launches readiness, curriculum approval, and faculty preparation for delivering the new content.
Expansion of In-Person & Lab Instruction	Increase availability of in-person engineering sections and offer E37 lab every quarter.	Engineering Faculty	Division Dean	Applicant pool availability, interview completion, candidate qualifications, and successful onboarding.	Evaluation of faculty preparedness, course scheduling stability, and ability to launch the new classes.
Expansion of In-Person & Lab Instruction	Expansion of In-Person & Lab Instruction	Engineering Faculty	Division Dean	Quarterly schedules showing increased in-person sections, approved lab scheduling, and instructor assignments.	Comparison of success rates in future terms once additional in-person sections and labs are implemented.

7. Describe the impact to date of previously requested resources (personnel and instructional equipment, facilities/upgrades) including both requests that were approved and were not approved. For example, what impact have these resources had on your program/department/office and measures of student success or client satisfaction and what have you been able to and unable to accomplish due to resource requests that were approved or not approved?

Approved resources, particularly the newly established E37 laboratory and updated instructional equipment, have significantly improved the quality of hands-on learning and increased student engagement. These improvements have strengthened the curriculum and expanded the range of technical experiences available to students. However, the department's ability to fully support new course offerings such as Engineering Materials(E45) and MATLAB(E11) remains limited in

upcoming Fall 26 by a shortage of faculty with the specialized expertise required to teach these advanced subjects. With only one full-time instructor and two part-time instructors supporting

5–6 sections each quarter; the instructional load is heavily constrained. Although the recent hiring of an additional part-time instructor supports the E37 lab, the department requires more instructors with engineering materials and computational expertise to ensure the curriculum continues to grow in depth and quality.

8. How have these resources (or lack of resources) specifically affected disproportionately impacted students/clients? If you have not requested or received resources, still describe how your area has been able to serve disproportionately impacted students/clients.

The limited number of instructors and historically limited access to advanced laboratory equipment have particularly affected disproportionately impacted students, who often rely on high-contact instructional support, structured lab environments, and clear pathways to skill development. The addition of the E37 laboratory and new equipment has improved access to high-quality experiential learning and helped address prior equity gaps. However, without sufficient faculty who are trained in teaching Engineering Materials(E45), MATLAB, (E11) and other emerging technical areas, the department faces challenges in expanding in-person sections and offering consistent mentorship for students who benefit most from direct instructional contact. Increasing the number of faculty with the specialized expertise needed for the department’s new and developing courses is essential to supporting equitable access to high-quality engineering education for all students.

9. Refer back to your Comprehensive Program Review and Annual Program Review Update from the past two years under the section titled Assessment Cycle or the SLO website (<https://www.deanza.edu/slo/>). In the table below, provide a brief summary of one learning outcome, the method of assessment used to assess the outcome, a summary of the assessment results, a reflection on the assessment results, and strategies your area has or plans to implement to improve student success and equity. If your area has not undergone an assessment cycle, please do so before completing the table below.

Table 1. Reflection on Learning Outcomes (SLO, AUO, SSLO)

<p>Learning Outcome (SLO, AUO, SSLO)</p>	<p>Based on SLO Winter 2024(reported on Annual report Jan 2025)</p> <p>The SLO for Engineering 37 focuses on students’ ability to analyze AC circuits using established circuit analysis techniques. Students are expected to apply Ohm’s Law, Kirchhoff’s Laws, phasor methods and transient analysis, to compute voltages, currents, in various circuit configurations. This outcome ensures</p>
--	--

	that students demonstrate the foundational analytical skills required for more advanced engineering coursework.
Method of Assessment of Learning Outcome (please elaborate)	The SLO was assessed through a comprehensive final exam requiring students to solve AC circuit problems using structured problem-solving steps aligned with the course rubric. Question involved constructing equations, applying phasor analysis, and interpreting circuit behavior using techniques taught throughout the quarter.
Summary of Assessment Results	Results showed that approximately 80% of students met or exceeded expectations with strong performance on phasor calculations and steady-state analysis. Summary of results were: 3 students exceeding expectations, 7 meeting expectations, 2 approaching expectations, and 3 not meeting the outcome. Students who consistently attended in-person sessions performed better on applied, multi-step circuit problems, aligning with observations about the value of face-to-face learning. Although this assessment cycle relied primarily on the final exam, supplementary assignment data showed similar trends.
Reflection on Results	Overall, students demonstrated solid understanding, AC, and basic transient circuit analysis, with around 80% meeting or exceeding expectations and in-person students showing the strongest performance. However, some students struggled with applied multi-step problems, indicating a need for more real-world practice, stronger prerequisite reinforcement, and expanded support to improve future success rates.
Strategies Implemented or Plan to be Implemented (aka: enhancements)	To improve student learning and increase success rates, the department will expand in-person sections, develop noncredit review modules, strengthen early intervention systems, and incorporate more application-based circuit examples. In addition, lab-based learning and targeted review materials will

	be enhanced to provide students with more hands-on practice and structured preparation for major assessments.
--	---

Please email this form to your dean/manager.

10. Dean Manager Comments:

11. Vice President/Associate Vice President Comments:

The Engineering Department continues to strengthen student pathways through curriculum expansion, instructional modernization, and applied learning. The establishment of the E37 laboratory provides students with a high-quality hands-on learning environment and expands access to experiential education that is essential for engineering transfer and workforce preparation. The development of new transferable courses in Engineering Materials and MATLAB, along with a new engineering certificate, aligns the program more closely with university expectations and industry-relevant skills. While these investments have improved access and engagement, the department's growth is constrained by limited faculty capacity. Hiring additional part-time instructors with specialized engineering expertise is essential to sustain program quality, expand in-person and laboratory instruction, and ensure equitable access for all students.