YEARLY PLANNING DISCUSSION

General Questions

Program Name: Engineering Technology Academic Year 2025-26

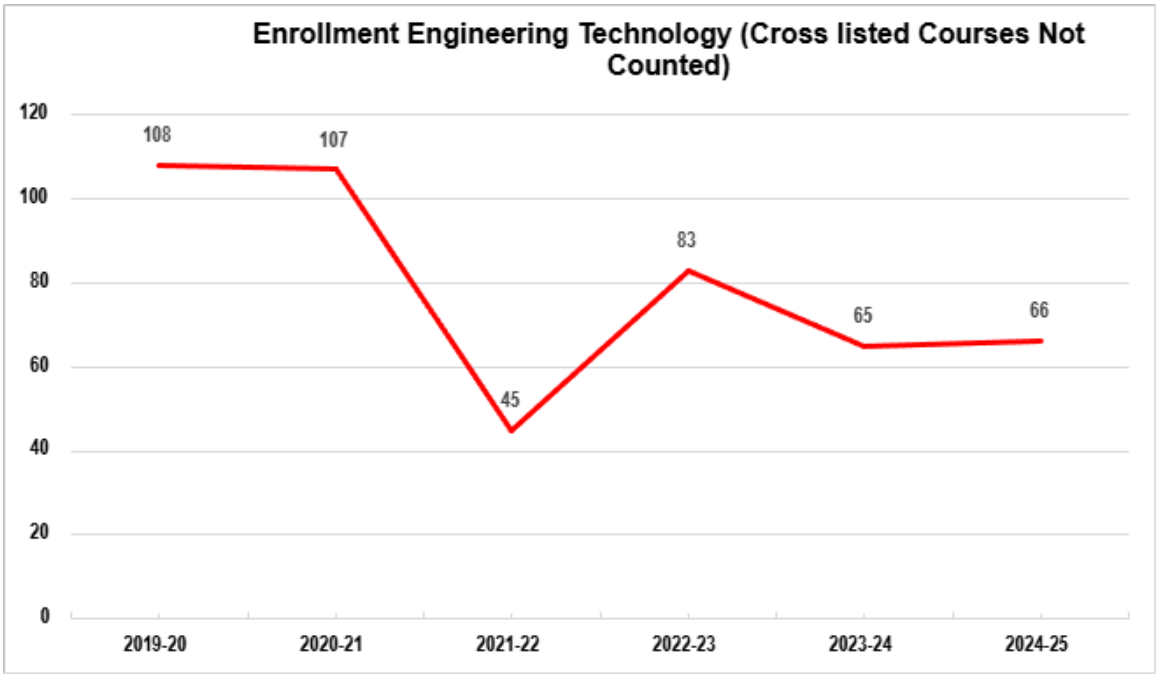
1. **Has your program mission or primary function changed in the last year?**

   There were no changes in the program's mission or primary function in the last year.

2. **Were there any noteworthy changes to the program over the past year? (e.g., new courses, degrees, certificates, articulation agreements)**

   In the spring of 2025, a new ET instructor was hired to replace the outgoing instructor. The new instructor taught two courses, ET 145 and ET 117. The ET program is recovering from a dip in enrollment caused by the cancellation of courses due to the previous instructor taking a leave of absence. Currently, the program is back on track, and there is a plan to boost enrollment by offering a summer course in ET 100, which is a foundation course.

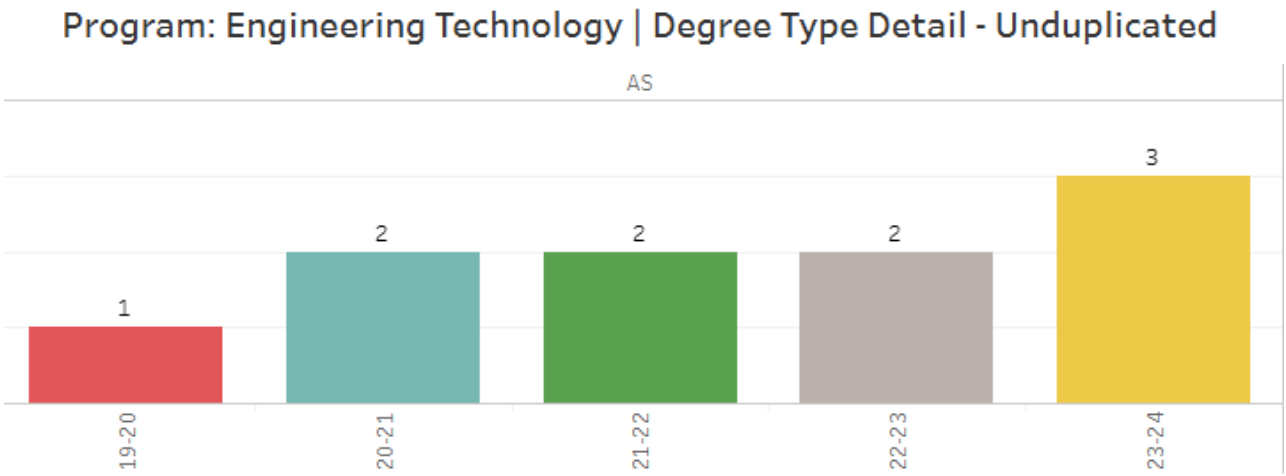
   (Figure 1) in 2010-22 enrollment dipped to 45 but bounced back in 2022-23 to 83 which was an increase of 84% from the previous year. Enrollment dipped to 22% of the peak value in the two years following the peak.



Source: Program Review: Enrollment & Headcount

3. **Is your two-year program map in place and were there any challenges maintaining the planned schedule?**

   There has been no change in the two-year program map. The engineering technology courses are designed to eliminate scheduling conflicts. in 2023-24 three AS degrees were earned. More time and effort are needed to facilitate the earning of more AS degrees as well as drafting certificates. (See figure 2 below).



Degree Description Detail

		19-20	20-21	21-22	22-23	23-24
AS	Civil Engineering			1		1
	Engineering Technology		2		2	2
	Engr Tech: Mechatronics	1		1		
Grand Total		1	2	2	2	3

(Figure 2) There was an increase in the number of Engineering Technology AS degrees awarded in 2023-24. There is a need to increase the number of both AS degrees and certificates.
Source: Program Review: Awards

4. **Were there any staffing changes?**
   In the spring of 2025, a new ET instructor was hired to replace the outgoing instructor. The new instructor completed the teaching of two spring courses; ET 117 and ET 145. The courses are helping with the restoration of enrollment.

5. **What were your program successes in your area of focus last year?**

   - Enrollment numbers dipped in 2021-22 due to the outgoing ET instructor not teaching the intermediate and advanced ET courses. The new instructor has just completed the teaching of two ET courses; ET 117 and ET 145. The enrollment numbers are expected to increase. In addition, ET 100 is being offered in the summer of 2026 to provide incoming students with the opportunity to get a head start. Enrollment numbers of ET100 at the writing of this report total 21.

- There was a jump in the number of AS degrees earned (see figure 2). The number rose from two in 2022-23 to three in 2023-24. More time and effort are needed to help retain students and increase their success rate.

Learning Outcomes Assessment

a. Please summarize key results from this year's assessment.

- In the Fall of 2023, Program learning outcome ET10: Be able to use computer-aided drafting and design CADD software to create, modify, delete, transfer, and plot graphic files used to produce complete engineering drawings, was assessed in the foundation course ET100: Computer Aided Drafting. 75% of students met the standards and 5% exceeded the standards.
- In the Spring of 2025, Program learning outcome ET12: Develop graphic communication skills including orthographic projection; detail and assembly drawings; auxiliaries; sections; dimensioning; and surface development., was assessed in the foundation course ET100: Computer Aided Drafting. 61.11% of students met or exceeded the standards, which is 8.89% below the 70% needed rate.

b. Please summarize your reflections, analysis, and interpretation of the learning outcome assessment and data.

- The assessment result of ET10 above shows that the foundation course success rate meets the minimum requirements. More than 70% of students met or exceeded standards. There was, however, a dip in meeting standard ET12. This result will be discussed with the instructor to find ways to increase the success rate.
- Data entry into SPOL by part time instructors needs to be encouraged. Currently, the program coordinator is assuming this task.

c. Please summarize recommendations and/or accolades that were made within the program/department.

- The CAD lab was updated with new computers capable of meeting the needs of newer software. A total of 36 student stations were replaced in addition to the instructor's station.
- There is a need to develop courses in introductory civil engineering including civil engineering drafting software Civil 3D. Other possible civil engineering branches to explore include surveying, transportation engineering, construction engineering, geotechnical engineering, structural engineering, and municipal or urban engineering.
- There is a need to form an engineering technology advisory committee team to assist with recommendations to enhance the program and better connect it with industry.

d. Please review and attach any *changes* to planning documentation, including PLO rubrics, associations, and cycles planning.

No changes to the planning documentation or the PLO rubrics were made. Work on the revision of the rubric was completed three years ago. The revised outcomes were more comprehensive.

Distance Education (DE) Modality Course Design Peer Review Update (Please attach documentation extracted from the *Rubric for Assessing Regular and Substantive Interaction in Distance Education Courses*)

a. Which courses were reviewed for regular and substantive interactions (RSI)?

The engineering technology program does not have distance learning courses at this time.

b. What are some key findings regarding RSI?

- Some strengths:
  N/A
- Some areas of possible improvement:
  N/A

c. What is the plan for improvement?
N/A

CTE two-year review of labor market data and pre-requisite review

- Does the program meet documented labor market demand?
  - According to the US Bureau of Labor Statistics, 16,900 openings for drafters are projected each year, on average, over the decade. All those openings are expected to result from the need to replace workers who transfer to other occupations or exit the labor force, such as retiring.

    Source: https://www.bls.gov/ooh/architecture-and-engineering/drafters.htm
  - In May 2023, the employment of architectural and civil drafters in California was estimated at 13,350. Source: https://www.bls.gov/oes/current/oes173011.htm#st
  - According to Labor Market Information Reports F23 published by Lightcast, SLO and SB counties are hotspots for architectural and civil drafters' jobs. The national average for an area of this size is 243 employees, while there are 271 here. This higher-than-average supply of jobs may make it easier for workers in this field to find employment in this area.

  Source: https://www.hancockcollege.edu/ie/documents/F23_Architectural_and_Civil_Drafters.pdf

- How does the program address needs that are not met by similar programs?

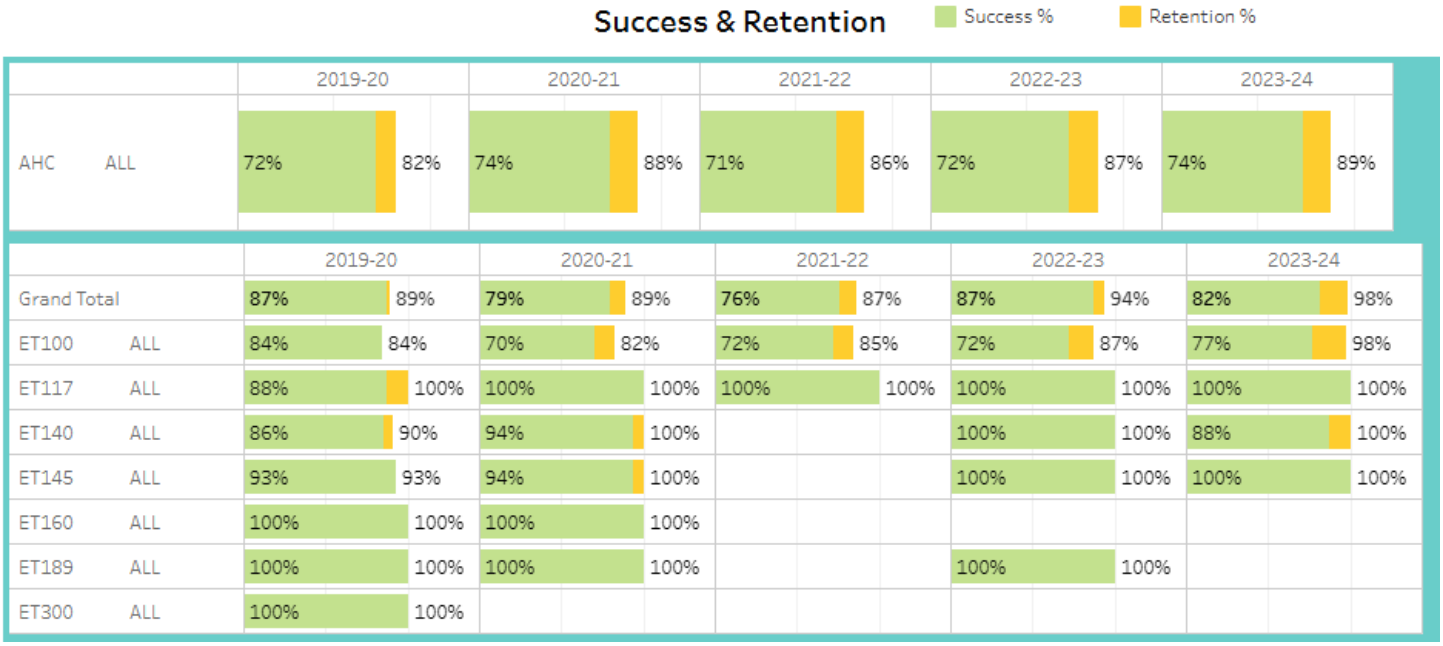
The Engineering Technology program (ET) is committed to providing students with the knowledge and skills they need to enter the engineering profession as beginning and/or intermediate CAD drafters and 3D modelers. In addition, the ET program is committed to preparing students to transfer to universities that offer degrees in mechanical engineering, industrial & manufacturing engineering, civil engineering, structural engineering, and other engineering related fields. Furthermore, the ET program is committed

to meeting the needs of industry professionals by offering courses in technical drawing, design drafting applications, 2D modeling using AutoCAD, and 3D solid modeling using SOLIDWORKS.

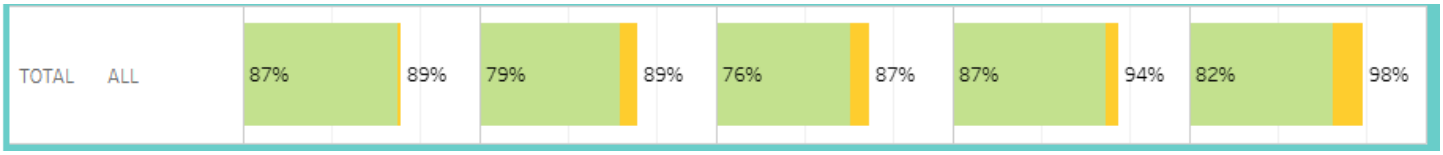
Ther are no other community college programs in Santa Maria that offer a comprehensive engineering technology program that prepares students for employment and transfer. The nearest engineering drafting technology program is offered at Cuesta College in San Luis Obispo County.

- Does the employment, completion, and success data of students indicate program effectiveness and vitality? Please explain.

  - The success rates of the engineering technology program (see bar chart below) were consistently higher than the success rates of the college over the five calendar years 2019-20 to 2023-24. In addition, the engineering technology retention rates over the same five-year period were higher than the college's retention rates.



	2019-20		2020-21		2021-22		2022-23		2023-24	
Grand Total	87%	89%	79%	89%	76%	87%	87%	94%	82%	98%
ET100 ALL	84%	84%	70%	82%	72%	85%	72%	87%	77%	98%
ET117 ALL	88%	100%	100%	100%	100%	100%	100%	100%	100%	100%
ET140 ALL	86%	90%	94%	100%			100%	100%	88%	100%
ET145 ALL	93%	93%	94%	100%			100%	100%	100%	100%
ET160 ALL	100%	100%	100%	100%						
ET189 ALL	100%	100%	100%	100%			100%	100%		
ET300 ALL	100%	100%								



  - There was a jump in the number of AS degrees earned (see figure 2). The number rose from two in 2022-23 to three in 2023-24. More time and effort are needed to help retain students and increase their success rate.

- Has the program met the Title 5 requirements to review course prerequisites, and advisories within the prescribed cycle of every 2-years for CTE programs and every 5 years for all others?

  We are currently waiting for the new Curricunet process for course review to be finalized. We have reviewed pre-requisites, co-requisites, and advisories of all classes, and there were no changes needed.

- Have recommendations from the previous report been addressed?
  - Work with employers on ways to increase entry-level qualifications: this recommendation continues to be work-in-progress. There are two part time instructors teaching in the engineering technology program who are connected to industry. The two instructors are valuable resources for knowledge about industry needs. Both instructors are also part of the advisory committee and continue to help.
  - Work with employers on enhancing internship opportunities: time and effort is ongoing towards fulfilling this recommendation. One of our engineering technology students found success with employment at a local engineering firm.

Area of Focus Discussion Template
INNOVATIVE SCHEDULING

Engineering Technology

Innovative Scheduling embraces mapping, scheduling, and student outcomes. This focus includes a review of modalities, times, days, and sequence of courses. It supports areas of interest. It is based on student success, retention, and completion/graduation data. Sample activities include the following:

Possible topics:

- Review scheduling matrices – program map alignment, successes, and challenges.
- Collaborate with guided pathways success teams to assess scheduling conflicts and bottlenecks within and across disciplines that impact student completion.
- Assess mix of teaching modalities – mornings-afternoons-evenings; weekends; face-to-face, hybrid, and distance learning. NOTE: Hybrid is the combined use of various teaching modalities.
- Address scheduling conflicts or dependencies across disciplines or general education areas.
- Student access – cultivate majors, support cohorts and interdisciplinary connections.
- Review units and time to course and program completion.

1. **What data were analyzed and what were the main conclusions?**

The topic below was explored: "Assess mix of teaching modalities – mornings-afternoons-evenings; weekends; face-to-face, hybrid, and distance learning. NOTE: Hybrid is the combined use of various teaching modalities."

The engineering technology program schedules courses so that students can enroll in them without scheduling conflicts. Below is an example of a typical fall semester schedule:

Time	Monday	Tuesday	Wednesday	Thursday	Friday
6:00–8:20 PM	ET 100	–	ET 100	–	–
6:00–9:00 PM	–	ET 140	–	ET 140	–

The figure above shows a typical fall schedule listing all the in-person classes. Notice the absence of course conflicts.

<u>This typical fall schedule shows:</u>

- No class overlaps
- Predictable weekly rhythm. This makes planning work, childcare, and transportation easier.
- Evening schedule supports working adults
- Both classes start at 6 PM, allowing:
  - Full-time workers
  - Part-time workers
  - Non-traditional students to attend without sacrificing employment

- Smooth pathway from ET 100 → ET 140
  - Because there is no conflict:
  - This accelerates certificate and AS degree completion
  - It strengthens enrollment in ET 140, which depends on ET 100 students continuing
- Balanced weekly workload
  - Students never have two ET classes on the same day. This reduces fatigue and improves retention.
- A clear recovery day (Friday)

Time	Monday	Tuesday	Wednesday	Thursday	Friday
6:00–9:00 PM	🟦 *ET 117*	🟥 *ET 145*	—	🟥 *ET 145*	—

The figure above shows a typical spring schedule listing all the in-person classes. Notice the absence of course conflicts.

<u>This typical spring schedule shows:</u>

- No scheduling conflict — students can take BOTH classes
- Predictable weekly structure. This rhythm is easy for students to remember and plan around.
- Ideal for working adults
  All classes start at 6 PM, which:
  - Accommodates full-time workers
  - Supports non-traditional students
  - Makes the program accessible to a wider population
  - This is a major strength of the ET program.
- Supports faster certificate and AS degree completion
  Because there is no conflict:
  - Students can take two ET courses in one semester
  - This accelerates progress through the program
  - It strengthens enrollment in ET 145 by creating a clear pathway from ET 117
  - Counselors can confidently recommend both courses together
- Friday is completely open for work, rest, or other commitments.

Time	Monday	Tuesday	Wednesday	Thursday	Friday
6:00–9:25 PM	🟦 ET 100	🟦 ET 100	—	🟦 ET 100	—

The figure above shows a typical summer schedule

<u>This typical summer schedule shows:</u>

- Fast-track completion

- Summer courses run on an accelerated calendar. Meeting three evenings per week allows students to complete ET 100 in a single short session, speeding up progress toward:
  - Certificates, AS degree, Entry into ET 140 and higher-level courses

2. **Based on data analysis and looking through a lens of equity, what do you perceive as *challenges* with student success or access in your area of focus?**

Key Challenges to Student Success and Access

Unequal early exposure to technical fields

Many students -especially first-generation, low-income, and underrepresented minorities -arrive with:

- Little or no hands-on STEM experience
- Limited access to high school engineering and shop programs
- Lower confidence in math or technical subjects
- This creates an entry barrier before they even enroll

Math placement as a gatekeeper

Engineering Technology doesn't require calculus, but:

- Students often get placed into long remedial sequences
- Remedial math disproportionately affects Black, Latino, and first-generation students
- Long sequences delay entry into ET courses
- This reduces momentum, retention, and degree completion.

Evening only schedules help working adults but limit others

The ET program is intentionally evening-based, which is a strength-but it also means:

- Students who rely on public transportation may struggle
- Students with evening childcare responsibilities face barriers
- Students with multiple jobs may have unpredictable schedules
- Evening access helps many, but it can unintentionally exclude others

Cost of tools, materials, and transportation

Even when tuition is low, hidden costs create inequity:

- Tools, safety gear, and materials
- Transportation to campus (especially for night classes)
- Lost wages from evening work shifts
- These costs disproportionately affect low-income students

Lack of awareness of ET career pathways

Many students -especially first-generation don't know:

- What Engineering Technology is
- That it leads to high-wage, high-demand jobs
- That it does not require advanced math or a four-year degree
- This reduces enrollment and limits access to upward mobility

Inconsistent advising about ET pathways

Counselors may:

- Not fully understand ET pathways
- Under-recommend ET courses
- Miscommunicate prerequisites or math requirements
- This disproportionately affects students who rely heavily on advising — often first-generation and ESL students.

Digital literacy gaps

ET programs increasingly rely on:

- CAD
- Simulation software
- Online homework
- Learning Management Systems (LMS) platforms such as CANVAS.

Students with limited digital access or experience face additional hurdles.

Equity concern:

- One failed or missed course can delay graduation by an entire year
- Students with fewer financial or familial safety nets are less able to absorb delays
- Transfer students may face credit loss or forced course repetition

Impact on success:

- Extended time to degree
- Increased debt
- Higher attrition before completion

Limited Flexibility for Non-Traditional Students

- Data pattern: Students who are older, parents, veterans, or caregivers are less likely to complete programs rigidly structured around “traditional” full-time schedules.

Equity concern:

- Mandatory in person attendance
- Few asynchronous or hybrid alternatives
- Little margin for illness, caregiving emergencies, or work schedule changes

Impact on success:

- Forced course drops rather than temporary accommodations
- Slower progress toward degree
- Feelings of exclusion from academic culture

3. **What are your plans for change or *innovation*?**

Scheduling Innovation and Student Access

To improve student access, persistence, and completion, the ET program will explore innovative scheduling models that align with the needs of working students and the project-based nature of ET education. Because many students enrolled in career technical education programs balance employment and family responsibilities, flexible and predictable scheduling structures can significantly improve program accessibility. The program continues to explore the implementation of block scheduling, hybrid delivery, and extended studio formats to better support hands-on learning while providing increased scheduling flexibility.

Block and Cohort Scheduling

The ET program continues to explore the feasibility of implementing a block scheduling model in which students enroll in a coordinated set of courses offered on consistent days and times. Block scheduling can reduce scheduling conflicts, simplify program planning, and support cohort-based learning communities.

In addition, block and cohort scheduling can be a major strategic advantage for the ET program-especially when viewed through an equity lens and the realities of the student population (working adults, first-generation students, Latino students, and students balancing work/childcare).

Hybrid and Flexible Delivery

The ET program continues to evaluate opportunities to offer selected lecture-based components in hybrid or partially online formats. Hybrid delivery can increase scheduling flexibility for students while preserving in-person instruction for drafting and laboratory components that require specialized equipment and faculty guidance.

Where appropriate, lecture content may be delivered asynchronously to allow students additional flexibility while maintaining synchronous studio sessions for critique and collaboration.

Compressed and Modular Course Options

The ET program will also explore the feasibility of offering certain technical skill courses such as CAD, BIM, and digital modeling in compressed or modular formats (e.g., 8-week sessions). Shorter course formats may allow students to focus on a single technical competency at a time while accelerating program progress. These modular offerings may also provide opportunities for working professionals or returning students to develop targeted skills aligned with current industry software and technologies. There is currently a summer session offering of ET 100.

Predictable Program Scheduling

To support student planning and reduce barriers to completion, the program continues to work toward developing a predictable multi-semester course schedule that clearly identifies when required courses will be offered. Providing students with advanced knowledge of course rotations can help reduce scheduling uncertainty and support timely program completion. See Program Map Report ,Program Map Report , and Program Map Report.

Continuous Evaluation

The program will continue to evaluate scheduling practices through enrollment data, student feedback, advisory committee input, and industry trends. Adjustments to scheduling structures will be implemented as needed to support student success, program efficiency, and alignment with workforce needs.

4. How will you *measure* the results of your plans to determine if they are successful?

Validation for Program Planning Process: If you have chosen to do the Validation this year, please explain your process and the findings.

- Who have you identified to validate your findings? (Could include Guided Pathway Success Teams, Advisory Committee Members, related faculty, industry partners or higher education partners)

Advisory committee members have validated the findings

- Are there specific recommendations regarding the core topic responses from the validation team?

The advisory committee made the following recommendations

- Consider adding a distance learning section offering.
- Explore expansion of the civil engineering curriculum.
- Consider incorporating information about non-traditional career paths where students can apply their skills, possibly via a resource or section in relevant courses.
- Continue to expose students to a variety of software relevant to both transfer and employment (e.g., Revit, SketchUp, Civil 3D) and clarify the different needs for transfer vs. internship preparation.
- Explore the feasibility of offering certain technical skill courses—such as CAD, and digital modeling—in compressed or modular formats (e.g., 8-week sessions)
- There is a need to enhance outreach activities and promotional materials.
- More space is needed to meet future growth.
- Limited awareness of related fields in structural engineering, mechanical engineering, transportation engineering, and environmental engineering that are offered by universities including Cal Poly SLO, and Cal Poly Pomona.
- Work with counselors on consistent advising about ET pathways
- Increase awareness of ET career pathways
- Explore the effect of AI on engineering technology education and employment

Based on the narratives for the prompts above, what are some program planning initiatives and resources needed for the upcoming years? Use the tables below to fill in **NEW** resources and planning initiatives. ***This section is only used if there are new planning initiatives and resources requested that pertain to the Core Topic only.***

Resource Requests: Please use the Resource Request Excel template located on the Program Review web page to enter resource requests for equipment, supplies, staffing, facilities, and misc. resources needed.

Send completed excel document along with completed program view core topic for signatures.

New Program Planning Initiative (Objective) – Core Topic Only	
Title (including number:	**Laptops to assist students with distance learning**
Planning years:	*(The academic years this will take to complete)*

Description:

(A more detailed version of initiative. Please include a description of the initiative, why it is needed, who will be responsible, and actions that need to happen, so it is completed.)

Students who enroll in distance learning will need laptops. There is a need to provide more laptops to meet enrollment needs. 15 additional laptops are needed along with a computer cart for storage and charging.

What college plans are associated with this Objective? (Please select from the list below):

☐ Ed Master Plan ☐ Student Equity Plan ☐ Guided Pathways ☐ AB 705/1705

x

☐ Technology Plan ☐ Facilities Plan ☐ Strong Workforce ☐ Equal Employment Opp.

☐ Title V

Program Review Signature Page:

Saad Sadig _____ May 11, 2026

Program Review Lead _____ Date

Thomas Lamica _____ May 16, 2026

Program Dean _____ Date

_____ Jun 15, 2026

Vice President, Academic Affairs _____ Date

Enter equipment requests below. Equipment is defined as having useful life of more than one year **AND** a purchase price of more than $200 each including tax. This includes all items that are part of the initial purchase.

EQUIPMENT NEEDS

Dept	Program	Source	Year	Initiative (Objective) Reference	Resource Need	Requested Item(s) Please include per item cost	Funding Request	Program Faculty Lead Priority	Estimated Equipment Cost
English	English Rhetoric	Yearly Planning Only	2022-2023	ER OBJ.- 2	Equipment	5 Video cameras $600 each	One-time	1 = High	$ 3,000.00
Industrial Technology	ENGR	Yearly Planning and Core Topic	2026-2027		Equipment	Dell Pro 16 PC16250 - 16" - Intel Core Ultra 7 - 265U - vPro Enterprise - 16 GB RAM - 512 GB SSD	One-time	1 = High	$ 30,000.00
Industrial Technology	ENGR	Yearly Planning and Core pic	2026-2027		Equipment	Bretford Cube TVC36USBCSC cart - pre-wired - for 36 tablets / notebooks - smart charging - black	One-time	1 = High	$ 3,235.99

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Final Audit Report 2026-06-15

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