2026-27 Comprehensive Program Review

Program: Drone Technology

Division: PATH

Writers: Daniel Grover Cearley

SLO/SAO Point-Person: Daniel Grover Cearley

Email your completed form to Karin Spirn and your dean by November 2, 2026.

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.

Section 1: Program Reflection and Planning

These questions appear on all Program Reviews including comprehensive and updates.

1. Please describe your program's most important **achievements** in year 25-26.

The Drone program is a relatively new program, entering its fourth year. It offers four non-credit courses, each 4-6 weeks in length, and when completed a student may apply for a Certificate of Completion. These courses are taught in succession during a single semester and allow students direct hands-on experience with professional grade equipment equal to current industry standards. Student goals range between recreational enrichment and individuals who view their training leading career enhancement, direct employment, or as small business entrepreneurs. Broadly speaking, the program has healthy numbers with most classes filled above capacity. We have seen a steady increase in our enrollment numbers, especially in the Spring semester. Our achievements are similar to previous years.

- *Healthy enrollment and completion numbers*
- *Successful student internship program*
- *Developing relationships with local wineries for agriculture monitoring*
- *Emerging relationships with almond growers in the Tracy area.*
- *Potential drone apprenticeship program with local employers*
- *Social media and marketing efforts continue to thrive*
- *Continue to be flexible as our program evolves and matures*

Our program receives Strong Work Force funding to hire student assistants as part of an internship program based out of the Computer Lab. This past year our interns are primarily computer science majors. They worked on drone projects that collect data from different types of sensors: thermal, multispectral, and Lidar. Most significantly, each month they conduct flights over the Campus Hill and 3Steve's Winery & Vineyard using a multispectral camera. Interns post-process the data and update our website data portal. We focus on creating best practices around visualizing data sets in a manner that is most useful for our Viticulture program as part of their crop management process. The intern program is a unique opportunity for students to collaborate on active research projects. It also provides an experimental space to hone skills which ultimately can be integrated into future drone courses.

As a direct result of the intern program, we are actively developing collaborative relationships with local vineyards and almond growers in the Tracy area. We will carry out monthly overflights of their crops and test our methods in a real-world scenario. We would assess the notion that low altitude remote sensing drone data may help with crop management decisions, ultimately making operations more efficient and result in a higher quality product.

We are also proud of our web presence and social media efforts. Our Instagram feed continues to surpass our expectations with several of our videos exceeding over 1500 views and shares. We are also pleased to share our footage widely, within and beyond our college. Our footage has been utilized in various marketing materials. We hope to continue this collaborative effort.

Once achievement that needs recognition is how our program has maintained a flexible posture in where we offer our courses. We currently operate out of the Photo Program's classroom for our photo-based course and in the Viticulture classroom for our mapping class. For our introductory basic skill course move between the synthetic or grass field depending upon scheduling conflicts with other events. We have a wide representation on our advisory board which has allowed us to maintain industry trends and give us guidance on course development.

2. Please describe your most important **challenges** in year 25-26

- Maintaining awareness of industry trends related to technology, uses, and policy
- Adapting our curriculum to industry needs
- Maintaining fluency with equipment and software
- Sustaining an emergent technology that has a relatively short lifespan.
- Minimizing time spent on set-up, break-down, and storing equipment
- Lack of an accessible storage location

As mentioned in our previous program review, our main challenge is maintaining a finger on the pulse of a new technology that is rapidly evolving. We are constantly trying to better understand how drones are being used by a wide range of industries that involve public safety, construction, commercial photography, agriculture, and environmental science. In a similar way, we are also attempting to follow local, state and federal policies, these agencies are also attempting to be nimble in face of an evolving technology.

With this said, we are currently seeking to alter our curriculum in ways to follow industry trends. We are currently exploring creating an apprenticeship program with the Northern California Laborers Union who

wish to develop awareness of drone operations. This local organization were pleased with our course offerings and would like us to mimic them in a credit-based format. Essentially their employees would be mixed with our students, and we would train their staff in teaching the courses.

New technology requires periodic investment in aircraft, ancillary equipment, software, and training of personnel. As a new program, we continue to refine our courses and invest in necessary equipment. Our initial fleet of aircraft purchased five years ago are now at the end of their lifespan and we are in the process of replacing these with more current models. We expect to use the new fleet for a longer period, however we are currently researching domestic manufacturers.

Since the last program review, we have lost an adjunct instructor and are actively seeking two to three more. As a small program, we do not have a dedicated full-time instructor. The program is shouldered on adjuncts and a full-time faculty member who is managing another program. With the significant amount of equipment, the instructors are spending a considerable amount of time prepping for the courses, setting up, and breaking down equipment. It may be necessary to seek funding for a technical aide position to assist in these processes.

We have developed a close relationship with Public Safety and Maintenance & Operations. Darrik Spenser and Allan Napago have been incredibly flexible in staging pop-ups, chairs, and tables on Fridays for our Saturday classes. With this said, we need to better train our instructors in using 25Live to make sure that materials are available, areas are unlocked, accessible, and facilities are available.

As mentioned in previous program reviews, we are constantly moving equipment to various locations. It would be helpful to have a dedicated general purpose electric cart for use by staff and faculty located near the center of campus. Access to carts in the M&O yard on weekends can be challenging. Similarly, we do not have a dedicated space for storing our equipment, we are currently using the Anthropology lab space. It would be ideal to find a more permanent home that is at ground level and can be accessed independent of lecture spaces. This may be resolved with the construction of the new Steam building, since the Photography program may be open to sharing space.

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

- Modify our certificate to include non-credit business classes
- Split our mapping class into two classes.
- Create opportunities for our students to complete 100 hours of flight time
- Hiring two to three new instructors
- Creating MOUs with local vineyards
- Enrolling more women and younger students
- Update our SLO assessments

We have a number of goals that we are organizing around. The first involves developing credit-based courses for the new drone apprenticeship program. Assessing different options for other courses and

industry specific certificates. This may be public safety focused, or additional courses that would further split up our mapping-based class into a secondary GIS focused class about data analysis and data visualization course. Other possibilities may involve converting our current courses into a semester-long format. We also recognize that many of our students view their certificate as a pathway to employment as a small business owner, so it may be wise to alter our current certificate to include non-credit classes in business management, planning, and related courses.

Students are constantly asking for opportunities to gain flight experience, this is especially important since entry level drone pilots need a minimum of 100 hours of flight time. Our current courses provide a quarter of this number, so we will be considering making an additional class, independent studies, or other courses to satisfy the 100-hour threshold. Additionally, we have created a sign-up sheet for students to volunteer during any non-course related flights, this has allowed many to continue to gain experience outside the class. We are considering starting a drone student club.

Our program receives various types of requests for off campus data collection. This includes local vineyards, local university archaeology programs, and most recently for Native American tribal land management projects. We will be reaching out to the District about guidelines for creating MOUs that may be needed as these opportunities become realized.

Lastly, we are focused on creating more gender equity among our students and addressing the lack of representation from the younger student demographic. As described in Section 3, women and under-25 students are underrepresented.

Unfortunately, our program has not prioritized SLO data collection among our part-time instructors. One of our main goals is to better coordinate with Part-time faculty to track SLOs.

Section 2: SLOs/SAOs

This section is completed every three years as part of the Comprehensive Program Review, with brief annual check-ins on the Program Review Updates. The following resources will be useful when completing this section:

- Three-Year Assessment Template
- Aggregated and Disaggregated Data from the following sources:
    - ELumen (if saved--no longer available online)
    - CurrIQunet
    - Student Success Dashboard

1. During the 2023-2026 three-year assessment cycle that just concluded, what did your program set out to learn through your PSLO/CSLO/SAO assessments?

- The department has not been able to maintain reporting requirements for PSLO or SLO. This will immediately move to the top of our priorities and be remedied in a concerted effort with our adjunct faculty. It is obvious from our observations that our students are improving, yet we currently do not have a system in-place to track these changes.

2. Based on your analysis of your PSLO/CSLO/SAO assessment data, what conclusions did you draw about student outcomes and equity in your program?

- We are unable to draw conclusions.

3. Explain potential plans to improve student outcomes and close equity gaps.

- See below.

4. Describe any obstacles that you encountered in your assessment process and any supports that would be helpful.

- We will schedule time with the SLO coordinator, since we do not have an effective method in place to track meaningful changes.

Section 3: Data Discussion

This section is completed every three years as part of the Comprehensive Program Review. Workshops and office hours will be offered in Fall 2026 to support Program Review writers.

1. RPIE Data Review: Discuss any significant trends in the data provided by the Office of Research, Planning, and Institutional Effectiveness (or any other data you use for decision-making and planning).

*(**Note**: Not all Programs have RPIE data available; if your program does not have a data packet or dashboard data, you may note that in the response box and reach out to the RPIE team.)*

Data may come from:

- RPIE Data Packets
- Transfer data
- Succes Rates Dashboard (scroll down on page)
- Requested data from the Office of Research, Planning, and Institutional Effectiveness (RPIE)
- SLO/SAO data
- Data from program-created surveys or investigations
- Any other relevant source of quantitative or qualitative data

- *Steady enrollments over four academic cycles of averaging 117.5 students: 22/23 (102), 23/24 (127), 24/25 (126), 25/25 (115)*
- *Our major demographic is over 50 years of age*

- *Our traditional college age (<25) remains low, 16-18% in the 25/25 cycle.*
- *We are averaging 8 certificates an academic year, representing approximately 15% of our students*
- *Course success rate averages at 77.4%, below our set standard of 81%.*
- *Fill rate in Spring classes, above 100% for three years (113%,130%,127%)*

2. Equity: Did your data reveal any patterns of inequity? If so, please explain those patterns and any actions that should be taken at the program or college level.

- *The gap between males and females continues to a challenge to close, we were averaging about 30% women, however in 25/26 we dropped to 15%.*
- *Our largest demographic is white (41%), followed by Latinx (19%), Asian (16%), African American (9%), these numbers more closely reflect Alameda County and less our younger student population.*

3. Course Modality (Instructional Programs Only): In reviewing your program's data packet and Succes Rates Dashboard, are there differences in success rates by modality (i.e. face-to-face, asynchronous, synchronous, hybrid, or hyflex)? If so, reflect on what might account for differences and any actions that should be taken. (Non-instructional programs may also choose to reflect on online vs. in-person services if applicable).

- *All of courses are hybrid with mandatory face-to-face sessions, except for a single test preparation course, NAVI 203, which is high flex. We continue to have a low success rate in this course of 40% not finishing the course. We believe it is related to the test taking focus of the class with many students deciding that the test is not necessary for them after about 3 weeks of a 6-week course. We continue to find solutions to help students persist and finish.*

4. Program-Set Standard (Instructional Programs Only): The program-set standard is a baseline that alerts programs if their student success rates have dipped suddenly below 95% of the rolling 5-year average. There is no punishment for not meeting the standard, and many valid reasons this may occur. When a program does not meet this standard, they are asked to examine possible reasons and note any actions that should be taken, if appropriate. | Program-set standard data can be found on this page

5a. Did your program meet its program-set standard for successful course completion in AY25-26?

Yes____ No_X__

5b. If your program did not meet your program-set standard, discuss possible reasons and how this may affect program planning or resource requests. Success rates for individual courses can be found on the Success Rates Dashboard.

- *Our set standard is 81%, yet our success rate is 77.4%. This is the first time our standard has fell below our mark.*
- *We attribute this to our NAVI 203 course which has a high non-success rate. We are currently looking for solutions to this issue. Since this course prepares students for a rigorous FAA exam, many students who are recreational pilots decide they do not need the licensing after a few weeks into the course. We might provide clearer preparations for student expectations for completion.*

Section 4: Special Topics

These questions have been chosen for this year's Comprehensive Program Review to meet reporting mandates (for accreditation, Ed. Code, or other sources).

1. Mission: Describe 1-3 examples of how your program's work has aligned with the college's mission, vision, values, and/or educational master plan over the past three years. (Possibilities might include new initiatives, resource allocation/use, program improvements, or other activities).

- Mission, Vision, and Values
- Educational Master Plan

The Drone Technology program reflects the first three values of our college: 1) Encouraging and celebrating lifelong learning; 2) Responding to the needs of the ever-changing workplace and society; and 3) Demonstrating civic, social and environmental responsibility

- Our student demographic is mainly over 30+ years of age and strongly represents individuals who are seeking training in new and exciting ways. Many see drones as offering them artistic expression, it is another way to capture images of the world around them using a flying camera. It is an extension of previous hobbies and part of ongoing personal enrichment.
- In a similar way, drones are becoming commonplace. In our next program review, we will talk about recent conversations with Amazon and ZipLine delivery services who are currently starting drone delivery in our area. This program is on the front line of a changing workplace. We are actively exploring ways that this technology is being integrated into a wide range of industries.
- As part of maintaining awareness of this fast-changing technology, we see community engagement as a responsibility. We are consistently reaching out to community groups and regional industries who are using drones or have an interest in them. These relationships have been incredibly fruitful.
- Two areas to highlight is our work with local agriculture and the Quest Science Center. Since drones are miniaturizing with very high-tech sensors, the cost point is steadily moving down. This is allowing industries to adapt this technology into their practices in ways that were not possible previously and has allowed business ownness increased independence to experiment with this technology. We have been well positioned to provide technical support to the wider agricultural community as mentioned previously. Similarly, the drone program has consistently collaborated with the Quest Science Center on various projects. Most recently, we help them by providing thermal data of our campus as part of a

youth science summer camp. This was very successful and reflects how the Drone Technology program is being seen as a community/industry resource.

2. Regular Substantive Interaction (Instructional Programs Only)

To meet our college, ACCJC, state, and federal standards, **all online instructors** must demonstrate "**regular and substantive interaction**" (RSI) with students. That is, we must be clearly providing instruction and interacting with our online students, just like we would in an on-campus class. The following reflection questions allow us to capture how RSI is occurring in our classes.

The following documents explain requirements and best practices for RSI:

- ACCJC Quality Continuum Rubric for Distance Education
- Regular and Substantive Interaction (RSI) requirements

2a. If your program offers DE courses, how are Regular and Substantive Interaction (RSI) requirements met in your area? Examples appear on the DE addendums of your Course Outlines of Record. Place an X next to each method used in your courses.	
X	Course materials make clear to students how often and when the instructor will interact with students (e.g. syllabus/home page lists email/office hours/other ways to communicate and typical response times)
X	Provides direct instruction over Zoom (e.g. regularly scheduled live online class sessions in synchronous/hybrid/hyflex courses)
X	Provides direct instruction through instructor-created videos (e.g. lecture videos created using Studio in asynchronous courses)
X	Provides additional information from various sources/mediums to engage students with course content (e.g. instructor-curated content in Canvas pages that help deepen students understanding of course content)
X	Facilitates discussions (e.g. through Canvas discussion boards, Pronto, Studio, or Hypothesis)
X	Provides feedback on students' coursework (e.g. through detailed rubrics and/or assignment comments in Speedgrader; note: a grade alone does not quality as RSI, nor does auto-graded feedback students may get through completing publisher content)
X	Responds to students' questions (e.g. through timely responses to student messages in Canvas Inbox, discussion boards, social annotation assignments)
X	Facilitates student success through ongoing outreach (e.g. posts announcements; uses "Message Students Who" to encourage struggling students to attend office hours or access free tutoring)
	Other [explain]:

2b. What challenges if any have you faced in implementing RSI? What additional training or resources might instructors in your program need to increase the quality of RSI in online courses?

- *In our Hi-flex course NAVI 203, it is a challenge to maintain momentum of students participating in real-time interaction during virtual sessions.*

Section 5: Program Review Feedback

What questions or suggestions do you have about this year's Program Review forms or process?

- *Write responses here*
- *Add or remove bullets as needed*

Detailed Instructions

Instructions

1. Send an electronic copy of this form to Program Review chair, Karin Spirn, and your Dean by Monday, November 2.
2. Please respond to questions with enough detail to present your information; it doesn't have to be long.
3. If the requested information does not apply to your program, write "Not Applicable."
4. 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.
5. Optional/suggested: Communicate with your dean while completing this document.

Sections: There are five sections to the document:

1. Program Reflection and Planning
2. SLO/SAO Review
3. Data analysis
4. Special topics
5. Feedback on the PR template and process

Time Frame: This Program Review should reflect your program status during the 25-26 academic year. It should describe plans starting now and continuing through 2026-27. It is fine to discuss topics beyond these time frames, but please specify the time frame in your responses.

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.

Equity: Here is the LPC definition of equity, which is a guiding principle in reviewing programs: "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."

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.

Helpful Links:

- ★ Tools for Writers - with contacts for help with specific sections.
- ★ Program Review Glossary - defines key terms you can review when writing.
- ★ Fall 2023 Program Reviews
- ★ Program Review FAQs

For help with your program review, please contact Karin Spirn at kspirn@laspositascollege.edu