

## Program Review Update 2025

**Program:** Drone Technology

**Division:** Public Safety, Adv. Manufacturing, Transportation, Health & Kinesiology (PATH)

**Writer(s):** Daniel G. Cearley

**SLO/SAO Point-Person:** Daniel G. Cearley

---

**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](mailto:kspirn@laspositascollege.edu).

---

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

- *Healthy enrollment and completion numbers*
- *Developing relationships with local wineries for agriculture monitoring*
- *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*

The Drone program is an emergent program entering its third year. It offers four non-credit courses, each 4-5 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 enjoyment and individuals who view their training leading to direct employment or as small business entrepreneurs. Broadly speaking, the program has healthy numbers with most classes filled and waitlisted. We have seen a steady increase in our enrollment numbers, especially in the Spring semester. As in-person non-credit courses in a pass/no pass format we have a high success and low withdrawal rate. Our fill rate is generally well above 100% with a high of 130% in Spring 2025. Our demographic tends to be older and not representative of our traditional college age with more than half of our students over 40 and 80% are over 30 years of age.

Ancillary to these courses, we manage an internship program based out of the Computer Lab. Our program receives Strong Work Force funding to hire student assistants as interns. This past year our interns are primarily computer science majors, yet we have had a range of other majors from horticulture to environmental science. They are working on various drone related projects related to the types of sensors

## Program Review Update 2025

used: thermal, multispectral, and Lidar. Most significantly, each month they conduct flights over the Campus Hill vineyard using a multispectral camera, 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. The 3 Steve's Winery & Vineyard has expressed interest in a partnership with the Drone Program where we will carry out monthly overflights of their vineyard and test our methods in a real-world scenario. We would assess the notion that low altitude remote sensing drone data may help with vineyard management decisions, ultimately making operations more efficient and result in a higher quality product. A formal agreement has not been reached, and an MOU may need to be approved, yet our program would provide data sets and analysis, while 3Steve's would allow access to their vineyard and ongoing feedback about our work.

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. This past year we had one of our students complete all our courses and secure an FAA commercial drone license. He was successful in documenting a few campus events, and some of the footage was useful to our marketing department. 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 began in the Anthropology lab, yet we currently operate out of the Photo Program's classroom for our photo-based course and in the new Viticulture classroom for our mapping class. For our introductory course where our students practice basic skill development we move between the synthetic or grass field depending upon scheduling conflicts with other events.

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

- Maintaining awareness of industry trends related to technology, uses, and policy
- Adapting our curriculum to industry needs
- Maintaining fluency with equipment and software
- 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.

## Program Review Update 2025

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 local industries who need to train their drone pilots. These employers 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 teach 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. We are also constantly seeking instructors who have previous teaching experience and who can connect with our demographic of students. We recognize that our demographic is overrepresented by men and has a different demographic make-up than our student body.

Since the last program review we have hired three new adjuncts and are actively seeking two 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 running 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 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 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.

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

- Clone courses in a credit-based format
- Modify our certificate to include non-credit business classes

## Program Review Update 2025

- Split our mapping class into two classes.
- Hiring two new instructors
- Creating MOUs with local vineyards
- Enrolling more women and younger students
- Update our SLO assessments

We have three main 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.

Lastly, we have had successful advisory committee meetings that were informative. The last two were strongly represented by local law enforcement agencies with Livermore PD and Hayward PD represented, and it created some potential opportunities for collaboration. The group identified possible Police Officer Standards and Training (POST) courses that LPC could act as hosts. It seems there is a lack of drone related courses in northern California and both Livermore and Hayward are growing their programs. 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.

## **CTE REPORT (CTE DISCIPLINES ONLY)**

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

- Yes or No: Yes
- Explanation/evidence: Drones are utilized in a wide array of industry applications, And it is rare that an individual is hired with a job title such as: Aerial Videographer, UAS Avionic Technician, UAS Data Analyst, UAS Instructor, UAS Maintenance Technician, or UAS Remote Pilot. These positions do exist; however, it is more common that an individual already has a position or defined career, and they need training in operating a drone. This has been the case with many public safety personnel or commercial photographers who use drones as part of their existing jobs. It may be more useful to consider our program as an industry training center, with opportunities for entrepreneurship in related fields.

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

- Yes or No: Yes
- Explanation/evidence: Mission College is the closest community college with an active and large drone program, termed Unmanned Aircraft Systems (UAS) Technology Program. It offers an AA degree and a certificate. Ohlone College also offers a single Drone sUAS Operator Course and Drone sUAS Mapping for Accident Reconstruction in their Administrative Justice Program.

### 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: Yes/No
- Explanation/evidence:

Our students have performed at an above 80% completion and persistence rate since 2024. As mentioned above, our students tend to view our courses as necessary training needed for their current careers. To illustrate this point, a former student expressed his evaluation of our program, "I am a supervisor for a drone program at a local police department. We currently have 16 UAS pilots and are looking to expand our program to 20 operators. I took the hands on portion which was extremely helpful in understanding the capabilities and limitations of UAS."

Unfortunately, the Perkins Core Indicator Report does not have Top code indicators that reflect the diverse applications of how drones are utilized nor how employment is affected by our training program.

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: See attached minutes.

## **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](mailto: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.