Fullerton College

Self-study for Drone Technology Program
2025

Section 1: Introduction

1. Briefly describe your program, make sure to include how your program helps the College achieve its mission.

   The Fullerton College Drone Technology Program, home of the nationally recognized Fullerton Drone Lab, is one of the most comprehensive and innovative college drone and autonomous systems programs in the United States. As the first California community college to offer a Bachelor of Science in Drone & Autonomous Systems and the creator of the country's first U.S. Department of Labor–approved Drone Pilot Registered Apprenticeship, the program leads regionally and nationally in workforce development.

   Our department offers a comprehensive system of stackable pathways, from pre-apprenticeship and technician certificates to upper-division bachelor's degree courses, supporting students pursuing careers in aerial imaging, LiDAR mapping, autonomous systems integration, public safety UAS, environmental and coastal monitoring, maintenance, and more. The Drone Technology Program has built strong partnerships with industry leaders, K–12 school districts, universities, statewide organizations, and industry initiatives.

   The Drone Technology program aligns with Fullerton College's mission by providing equitable access to in-demand technical education, preparing students for meaningful careers, and empowering diverse learners through hands-on experiential learning. The program offers stackable pathways, from introductory courses and industry-recognized certificates to apprenticeships and the recently approved bachelor's degree, enabling students to enter or advance in the autonomous systems workforce. Through real-world projects, such as wildfire burn-scar mapping, coastal environmental surveys, cinematic production work, and infrastructure inspections, students apply classroom knowledge to community-serving initiatives that benefit the region.

   The program also supports the College's commitment to student success and equity by serving a highly diverse student body, including a majority of Latina/o/x/e students, as well as many first-generation and returning adult learners. Outreach initiatives through the Drone Ambassador program, dual-enrollment partnerships, and workforce collaborations expand access to STEM fields for underrepresented groups and create pathways to well-paying careers. By combining innovation, community involvement, and career readiness, the Drone Technology program reflects the mission of preparing students for responsible citizenship, lifelong learning, and professional achievement.

Section 2: Students

2.1 Student Demographics and Enrollment Trends

1. Using the data provided by the OIE, describe the student population your department serves. Which demographic groups have the most enrollments in your program? Which student groups are underrepresented in your program? Has the demographic profile of your program changed over the last four years?

The Drone Technology program serves a highly diverse student body that reflects both the local community and emerging technical workforce demographics. The program attracts traditional college students, career changers, working adults, veterans, returning students, and students transitioning from K–12 pathways or dual enrollment. Many students begin the program with limited prior exposure to aviation or robotics, and the curriculum is intentionally designed to support learners as they progress from basic piloting skills to advanced autonomous systems, LiDAR, cinematic production, and maritime robotics.

Over the past four years, Latina/o/x/e students have consistently been the largest group enrolled in the program, accounting for 47–53% of total enrollment each year. This trend has grown stronger over time; not only have the percentages stayed high, but the actual number of Latina/o/x/e students has more than doubled as overall enrollment has increased.

White students are the second most represented group, usually making up 21–29%, followed by Asian students, whose numbers have steadily grown from 8% to 12%. Students identifying as two or more races have also increased in raw numbers, even though their proportional share has remained fairly stable.

These trends demonstrate that the Drone Technology program is successfully reaching and engaging students who are often underrepresented in STEM fields, especially in aviation and autonomous robotics.

The most underrepresented demographic group in the program continues to be Black/African American students, who make up 3–4% of enrollment depending on the year. Although their participation has grown in absolute terms, it remains proportionally low compared to other groups.

Another area where women are underrepresented is in enrollment. Even though the number of female students has grown significantly over four years, their share remains between 15–20% of total enrollment. As the overall headcount increased, the number of female students did grow (from about 28 to 65 students), but their percentage has not yet increased. This indicates both progress and a continuing need to create pathways for women into UAS, robotics, and autonomous systems careers.

The demographic profile of the program has changed meaningfully:

- Overall enrollment nearly tripled — from 165 students in 2020–21 to 430 in 2024–25.
- The number of Latina/o/x/e students grew more than any other group, strengthening the program's robust pipeline into historically underrepresented STEM populations.
- Female student participation grew in total, even though their proportional representation stayed the same.
- Asian student enrollment steadily increased, showing rising interest in engineering, digital media, and geospatial technology.
- "Unknown / Decline to State" responses have decreased, indicating improved demographic reporting accuracy.

These trends indicate that outreach efforts, stackable certificates, K–12 partnerships, and program visibility are attracting a larger and more diverse student population. At the same time, the data reveal ongoing opportunities, especially in increasing female participation and expanding engagement with Black/African American students.

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2. Briefly describe course-level enrollment trends in your program over the past five years. Have the enrollment trends in your program changed over the last five years? To what do you attribute any changes or lack of changes?

Enrollment in the Fullerton College Drone Technology program has experienced consistent and impressive growth over the past five academic years, driven by rising industry demand for drone and autonomous systems training and the program's growing reputation as a statewide leader in workforce-focused education.

The program has grown from 165 students in 2020–2021 to 430 students in 2024–2025, marking a 160% growth in enrollment over just four years. Enrollment has steadily increased each year.

- 2020–2021: 165
- 2021–2022: 169
- 2022–2023: 252
- 2023–2024: 355

- 2024–2025: 430

This upward trend shows the quick growth in course offerings, new certificates, the launch of California's first Bachelor of Science in Drone & Autonomous Systems, and strong partnerships with K–12 schools and regional workforce programs.

Academic Year	2020-2021		2021-2022		2022-2023		2023-2024		2024-2025	
Gender	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Female	28	17%	33	20%	50	20%	54	15%	65	15%
Male	117	71%	123	73%	180	71%	269	76%	332	77%
Unknown	20	12%	13	8%	22	9%	32	9%	33	8%
Total	**165**	**100%**	**169**	**100%**	**252**	**100%**	**355**	**100%**	**430**	**100%**

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Headcount and Course Success Rates FIN
Data as of 11/12/25, 9:38 AM

The program remains male-dominant; overall gender distribution stays relatively stable, but the absolute number of female students has increased.

- Female enrollment increased from 28 students (17%) in 2020–21 to 65 students (15%) in 2024–25.
- Male enrollment grew from 117 to 332, increasing the overall proportion of men from 71% to 77%.
- "Unknown/Decline to State" has remained between 8–12% each year.

Although the percentage of female students has remained between 15–20%, the number of female students has more than doubled over time. This presents a key opportunity for increased outreach, recruitment, and support targeting women in aviation, engineering, and autonomous systems. The students are launching a collegiate chapter of Women and Drones, a national organization dedicated to advancing excellence and equity for women in the unmanned aircraft systems (UAS) industry, or drones. Its mission is to increase female participation in the industry's economic opportunities. The student chapter will provide opportunities to further increase the number of female students in the program.

Academic Year	2020-2021		2021-2022		2022-2023		2023-2024		2024-2025	
Ethnicity	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
American Indian or Alaska Native	1	1%	1	1%					1	0%
Asian	13	8%	22	13%	26	10%	47	13%	51	12%
Black or African American	5	3%	5	3%	7	3%	14	4%	16	4%
Latina/o/x/e	77	47%	80	47%	134	53%	179	50%	228	53%
Native Hawaiian or Other Pacific Islander					1	0%				
Two or more races	16	10%	15	9%	16	6%	26	7%	35	8%
Unknown	5	3%	8	5%	7	3%	12	3%	8	2%
White	48	29%	38	22%	61	24%	77	22%	91	21%
Total	**165**	**100%**	**169**	**100%**	**252**	**100%**	**355**	**100%**	**430**	**100%**

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Headcount and Course Success Rates FIN
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Filtered by **Division** (is TE), **Department** (is TEC)

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Fullerton College's Drone Technology courses continue to serve an ethnically diverse student body, with strong representation from historically underserved groups. Notably, Latina/o/x/e students make up the largest share of enrollment each year, consistently accounting for 47–53% of students, well above the state and regional STEM program averages.

Key multi-year patterns include:

- Latina/o/x/e students grew from 77 (47%) in 2020–21 to 228 (53%) in 2024–25.
- Asian students increased steadily from 13 (8%) to 51 (12%).
- Black/African American student participation remained small but increased in both number (from 5 to 16) and proportion (from 3% to 4%).
- White students have consistently ranged between 21% and 29% year to year.
- Students reporting two or more races declined from 10% to 8%, but the actual number increased from 16 to 35.

These patterns show that the program is fulfilling its mission of providing fair access to high-demand career pathways, especially for Latina/o/x/e students, first-generation learners, and adult career changers.

The enrollment data from 2020–2025 clearly demonstrates:

- Rapid and sustained program growth
- High and increasing participation from Latina/o/x/e students
- Steady increases in female enrollment in absolute numbers
- Expanding racial and ethnic diversity overall

With enrollment nearly tripling over the last five years, the Drone Technology program continues to expand in line with industry demands and regional workforce priorities. These trends support ongoing investments in facilities, faculty, upper-division curriculum, apprenticeship growth, and community partnership development.

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3. How do you monitor and modify course offerings, including time and modality, to ensure that students' needs are being met?

   The Drone Technology program continuously monitors student enrollment, demographic trends, success and retention rates, and employer feedback to inform our course planning and delivery. We aim to use a data-driven, industry-informed approach that enables the department to adjust offerings in real time to meet student needs and workforce demands.

   First, we assess enrollment and fill rates at the course and section levels each semester, closely monitoring when classes reach capacity, are under-enrolled, and which modes (in-person, hybrid, online synchronous, or asynchronous) perform best. Courses that consistently fill up are expanded with extra sections or offered in multiple formats to ensure availability.

   Second, we collect student feedback through informal conversations and debrief sessions. After each term, we seek direct input on pacing, equipment needs, instructional methods, and preferred times of day. This feedback helps us modify course schedules or redesign hybrid and lab formats to improve access and skill development.

   Third, we collaborate closely with industry partners, apprenticeship sponsors, and advisory boards. Since the program is clearly workforce-focused, we regularly update offerings to meet job requirements, certification standards, and emerging technologies.

   Fourth, we track student populations and accessibility needs, including nontraditional students, veterans, career-changers, and dual-enrollment high school students. We strategically schedule courses at different times during the day, late afternoon, and evening to accommodate students with various work schedules.

   Through this ongoing, iterative approach, our course offerings adapt dynamically to meet students' academic, professional, and logistical needs.

2.2 Student Achievement

1. Using data provided by the OIE, describe overall student achievement counts, rates, and trends in your program over the past five

years, these include: course success rates, degrees/certificates completion counts, transfer counts, licensing, job placement, wage improvements (not all of these measures apply to every program).

Unfortunately, limited student data has been collected because it is a new department. Some data has been found under TECH, but it includes courses outside the Drone Technology program. Additionally, data listed under "Autonomous Systems" is incorrectly classified, as it represents only one degree within the Drone Technology Department. As a result, there is currently no accurate data on the OEI site for measurement purposes. However, as the leader of this single-person department, I can confirm that completion rates have steadily increased over the past five years. Students are required to complete the Uncrewed Aerial Systems Certificate as part of the registered apprenticeship program. Many students outside of the apprenticeship also pursue the certificate to enhance their employment prospects. Furthermore, with the upcoming bachelor's degree, many students are working toward and have completed the Associate of Science in Drone and Autonomous Systems degree, which is the first step toward the bachelor's degree. These numbers are expected to continue growing.

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2. Are there student groups whose success rates are below the institution-set standard or whose success rates are below other student groups? What factors can explain this?

Because Drone Technology is a new program developed from multiple initiatives, it is currently impossible to accurately track individual student data from the past five years. Some data has been found under TECH, but it includes courses outside of the Drone Technology program. Additionally, there is data listed under "Autonomous Systems," which is an incorrect classification, as it represents only one degree within the Drone Technology Department. Therefore, there is no reliable specific data on the OEI site for reference at this time.

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3. In terms of your degree and certificate completers, are there any groups who are underrepresented in your completion data compared to the overall enrollment in your program?

Because Drone Technology is a new program developed from multiple initiatives, it is currently impossible to accurately track individual student data from the past five years. Some data has been found under TECH, but it includes courses outside of the Drone Technology program. Additionally, there is data listed under "Autonomous Systems," which is an incorrect classification, as it represents only one degree within the Drone Technology Department. Therefore, there is no reliable specific data on the OEI site for reference at this time.

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4. Are your students completing your degree and certificate program requirements in the expected time frame? Are there certain groups whose rates are below other student groups? Discuss any efforts to improve time to completion.

Because Drone Technology is a new program developed from multiple programs, the individual student data from the last five years cannot be accurately tracked. Some data has been found under TECH, but it includes other courses that are not part of the Drone Technology program. Additionally, there is data listed under "Autonomous Systems," which indicates an incorrect classification, as they represent only one degree within the Drone Technology Department. Therefore, there is currently no accurate data on the OEI site to base measurements on.

2.3 Student Learning Outcomes

1. Describe your program's processes and practices for defining, assessing, and analyzing student learning outcomes at the course (CSLO) and program (PSLO) level. Include a discussion of how your program uses the results of CSLO/PSLO data to inform course and program improvement efforts.

The Drone Technology program establishes its Student Learning Outcomes at both the course (CSLO) and program (PSLO) levels through a collaborative, iterative process that considers industry skills, FAA regulations, and workforce readiness. CSLOs define skills and knowledge for each course, while PSLOs set broader program goals such as professional conduct, expertise in

autonomous systems, and the ability to interpret or communicate complex geospatial data. Both are reviewed regularly with the Drone Technology Advisory Committee whenever the curriculum is updated, new technologies are introduced, or new certificates are added.

Assessment is carried out using various methods suitable for applied technical instruction, including practical flight demonstrations, lab deliverables, project milestones, mission reports, and safety and compliance reflections. CSLOs are assessed through different course artifacts, while program-level outcomes are evaluated via projects, field deployments, internships or apprenticeships, and progress along certificate or degree pathways.

Assessment data are reviewed each semester by full-time faculty members. Results are used to modify curriculum pacing, lab sequencing, and instructional strategies.

SLO trends also influence program decisions. Feedback from industry partners and apprenticeships has helped shape the development of new advanced courses, additional certificates, and upper-division curriculum within the bachelor's degree. Together, the ongoing review of CSLO and PSLO outcomes ensures that students are not only gaining knowledge but also applying it in real-world industry settings aligned with employer expectations and regulatory standards.

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2. (OPTIONAL/NOT REQUIRED) Using the data provided by OIE, describe the most salient results of CSLO or PSLO mastery rates. Did you find significant differences by race, ethnicity, gender, and other categories?

Section 3: Other Areas of Program Effectiveness

1. Document any substantial changes to your program curriculum since the last review and discuss what prompted these changes. Looking forward, what changes to the curriculum do you plan based on the emerging needs of your discipline, industry, student population, etc.

Since the last review, the Drone Technology program has experienced substantial curriculum expansion driven by three main factors: rapid advancements in the autonomous systems industry, increased student demand and enrollment, and regional workforce development needs. These changes have transformed the program from a basic set of UAS courses into a comprehensive, multi-pathway training system recognized statewide.

Stackable pathways were created in emerging occupational fields. These certificates were directly shaped by industry requests, hiring trends, and student results. Advisory Committee feedback consistently stressed the need for graduates who could go beyond basic piloting to become skilled data technicians, autonomous systems operators, and field-ready specialists. As a result, the curriculum focuses on data acquisition, sensor technology, mission planning, and post-processing, not just piloting.

The program expanded its 200-level and upper-division technical courses to fill proficiency gaps identified by employers. These classes help students move from basic skills to advanced competencies, making them more competitive in autonomous, aerospace, public safety, inspection, and media production fields.

The development of the Bachelor of Science in Drone & Autonomous Systems marks a major curriculum update. The program is set to launch California's first bachelor's degree in Drone and Autonomous Systems starting in Fall 2026. This degree opens advanced pathways in four core areas.

- Autonomous Operations (aerial, surface, maritime, terrestrial)
- Technical Maintenance and Systems Integration
- Geospatial Analytics, LiDAR, and Data Interpretation
- Operations Management, Project Leadership, Law, and Applied Fieldwork

The bachelor's program targets early professionals, mid-career upskillers, and students aiming for leadership roles in next-generation autonomous systems, aerospace, AAM/eVTOL, critical infrastructure, environmental science, and defense.

The Drone Technology program's curriculum increasingly emphasizes hands-on learning through projects, field missions, and industry-guided training. Students now frequently engage in real-world deployments, such as LiDAR mapping of wildfire burn scars, environmental coastline scanning, municipal asset inspections, and cinematic productions, linking classroom concepts with

industry workflows.

Updates to the drone technology curriculum are informed by documented workforce needs and recent industry innovations. Changes are thoughtful, responsive, and aligned with industry demands. Future revisions will focus on relevant skills, promote equal access, target high-demand sectors, and help students move toward good-paying careers.

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2. Please briefly describe opportunities your students have to apply and deepen knowledge and skills through projects, apprenticeship, internships, co-ops, clinical placements, group projects outside of class, service learning, study abroad, and other experiential learning activities that you intentionally embed in coursework or elsewhere in your program.

The Fullerton College Drone Technology program intentionally integrates hands-on, real-world applications throughout its curriculum to boost student knowledge and prepare them for the workforce. Nearly every course includes applied flight missions, field data collection, or equipment operations that mimic real industry scenarios. Students regularly perform LiDAR and photogrammetry scans, carry out thermal inspections, operate drones in research settings, and plan autonomous flight missions using enterprise-level platforms.

Beyond classroom projects, students engage in employer-partnered experiential activities. The program manages the Hornet Drone Pilot Registered Apprenticeship, the first of its kind in the United States, enabling students to gain paid work experience while building skills in inspection, cinematography, mapping, and emergency response. The Drone Lab also supervises internships with local agencies and private-sector companies.

Students develop their skills through service-learning projects and community missions, such as wildfire burn-scar LiDAR mapping with the Orange County Fire Authority, coastal environmental surveys, and municipal infrastructure scans. Group activities outside of class, such as cinematic productions, drone racing, or technical build teams, also foster collaboration, leadership, and professional readiness.

Through these layered experiential opportunities, students engage directly with the technologies, workflows, and expectations of the drone and autonomous systems industry, accelerating both skill development and career placement.

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3. Describe any laws, regulations, trends, policies, procedures, or other influences that have an impact on your program. These can include things like Vision 2030, CALGETC, Common Course Numbering, etc.

The Drone Technology program is heavily shaped by federal aviation regulations and emerging industry standards. FAA requirements for Part 107 certification form the basis of the core curriculum, while evolving guidance on BVLOS operations, remote ID, and expected Part 108 standards influence advanced coursework in autonomous flight, data collection, safety, and mission documentation. Increasing national and state investment in Advanced Air Mobility (AAM) and eVTOL systems also impacts curriculum development in maintenance pathways, autonomous fleet management, and systems integration.

State-level educational policies, including Vision 2030, CALGETC, and Common Course Numbering, influence how introductory and lower-division courses articulate and build into pathways. These initiatives promote access for returning adults, dual enrollment students, and first-generation learners by increasing transferability, clarifying lower-division requirements, and supporting stackable certificates that lead to employment.

Workforce and apprenticeship regulations further guide the program, especially as Fullerton College operates the nation's first Drone Piloting Registered Apprenticeship. Employer-driven competency standards from public safety partners, infrastructure inspection agencies, environmental organizations, and aerospace firms continue to shape curriculum toward applied skill mastery and hands-on learning. These policies and industry pressures collectively steer the program toward a multi-platform autonomous systems ecosystem rather than a traditional aviation-only model.

Section 4: Faculty and Staff

4.1 Population and Demographics

1. Using the data provided by OIE, describe your program's staff (full-time/part-time faculty, nonfaculty, classified). How reflective of your program's student population is your staff?

OEI data is scattered because the Drone Technology Program includes courses within the division's Technology area. It consists of data compiled from the individual courses that make up the new Drone Technology program.

Currently, the program has only one full-time faculty member, supported by adjunct instructors who teach about 75% of the courses offered (based on 2024 data). Significant growth is expected in fall 2026 with the addition of the bachelor's degree and other certificates.

The lead faculty member will have a 30% reduction in teaching load (release time) to support essential oversight and management of the bachelor's program in Fall 2026. The program risks losing momentum and struggling to meet the demand of the upcoming baccalaureate cohort. Growth depends on increased industry collaborations.

An additional full-time instructor was approved for hire. If all goes well, the instructor will be added in Fall 2026, in time for the implementation of the bachelor's program.

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2. Describe your program's staffing changes since fall 2021. How have these changes impacted your program's ability to achieve its strategic action plans?

Since Fall 2021, staffing in the Drone Technology program has expanded from one full-time faculty member to three adjunct instructors, with an additional full-time position approved to begin in Fall 2026. The addition of adjunct faculty has allowed for the increase of course offerings, developed new certificate programs, and supported rapid enrollment growth; however, reliance on a single full-time instructor has limited capacity for curriculum development, grant management, outreach, and industry partnerships.

The approved second full-time faculty member will greatly improve program sustainability by helping distribute instructional leadership, overseeing emerging upper-division curriculum linked to the bachelor's degree, and supporting apprenticeship, fieldwork, and regional workforce initiatives. Additionally, the planned hiring of up to four more adjunct instructors will provide the instructional flexibility needed to accommodate specialized courses (e.g., LiDAR, FPV, autonomous systems, ROV operations) and ensure alignment with industry demand. Overall, these staffing changes position the program to better achieve its strategic goals and meet the needs of students and employers.

4.2 Staff Support and Professional Development

1. Describe the regular discussions your program faculty are having about equitable grading, attendance, late work, extra credit policies, and other strategies to support equitable student success.

Since the program currently has only one full-time faculty member, discussions about fair grading, attendance, and student success strategies are held through coordination with adjunct instructors, the advisory committee, departmental initiatives, and college-wide equity efforts. The full-time instructor provides guidance and shared expectations on flexible late work policies, competency-based assessments, and opportunities for assignment revisions, especially in technical skills courses where mastery develops at different rates. As the program grows, especially with the addition of a second full-time faculty member, more formalized practices and collaborative discussions will be established to ensure consistent expectations and fair student outcomes across all course sections.

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2. How have these conversations shaped practices or polices in your program? What action has arisen from these discussions? If no action has been taken, why not?

Although the Drone Technology program has only one full-time faculty member, informal conversations with adjunct instructors have led to several shared practices that promote fair student success. Faculty have agreed to use clear, competency-based grading that highlights demonstrated skill mastery rather than punitive point deductions. This approach is especially key in applied skill areas where students may have different levels of technical experience or access to equipment. Instructors are encouraged to allow assignment revisions, offer flexible late work deadlines related to flight and equipment access, and provide alternative ways for

students to demonstrate learning when faced with barriers such as work commitments or transportation issues to field sites. Although full program-wide policies haven't yet been formalized due to limited full-time staff, the upcoming addition of a second full-time instructor will help establish these practices as formal policies, ensure consistent application, and evaluate their impact on students across all sections.

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3. What additional areas of professional development could help your faculty and staff engage in this work?

   Faculty and staff could benefit from professional development focused on fair assessment in technical and competency-based programs, inclusive teaching strategies for hands-on lab settings, and best practices for supporting diverse learners in applied CTE fields. Given the program's rapid growth and specialization, professional development in emerging regulations (BVLOS, AAM), industry-standard software and hardware, and apprenticeship supervision would also improve our ability to align instruction with real-world expectations and ensure fair outcomes across all courses.

Section 5: Program Planning

5.1 Progress on Previous Strategic Action Plans

1. Please discuss the goals (Strategic Action Plans, SAPs) from your last self-study. Assess and explain your progress on each of the SAP.

   As a new department, this program review of the Drone Technology program marks the program's first. So, there was no previous Strategic Action Plan to measure or compare against.

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2. If additional funds were NOT allocated to you in the last review cycle, how did the LACK of funds have an impact on your program?

   Not applicable. As a new department, this program review of the Drone Technology program marks the program's first. So, there was no previous Strategic Action Plan to measure or compare against.

SAPs

Successful Integration and Launch of the Bachelor of Science in Drone & Autonomous Systems

Short Description:
Create clear advising and onboarding pipelines for transfer students, working professionals, veterans, and apprentices transitioning into the bachelor's program. Develop articulation strategies with feeder certificates, community colleges, and regional high schools to create stackable pathways from entry-level skills to an associate degree to a bachelor's degree. Establish a dedicated advisory committee for upper-division curriculum to ensure program relevance in AAM/eVTOL, geospatial analytics, maritime autonomy, industrial inspection, and defense applications.

Measurable Outcomes:
• Enrollment Growth Increase overall Drone Technology program enrollment by 10–15% within the first two academic years of BS implementation. • Pathway Retention At least 60% of certificate and associate degree completers continue into upper-division coursework by Year 3. • Upper-Division Course Success Rate Maintain ≥80% success in 300/400-level courses. • Industry/Field Engagement 25–35 upper-division students annually placed in internships, apprenticeships, or capstone partnerships within 3 years.

College Goals:
3.2 Reduce equity gaps in degree/certificate completion

SAP Phase:
In Progress

Strengthen Industry Partnerships and Student Pipelines

Short Description:

Formalize strategic partnerships with employers who consistently hire our students: OC Fire Authority, SoCal Edison, Wisk Aero, Anduril, environmental agencies, city, and county public works. Expand experiential opportunities: burn-scar LiDAR mapping, coast surveys, cinematic productions, and industrial inspection missions. Create industry mini-labs or partner residency spaces within instructional areas.

Measurable Outcomes:

Provide 100–150 students annually with hands-on mission activities or employer-guided projects. (LiDAR mapping, environmental monitoring, cinematic productions, etc.) Increase job placement rates by 5–10% per year, with a specific focus on technical roles (LiDAR, inspection, AAM maintenance, geospatial analytics). Secure 3–5 new industry partnerships each year while maintaining existing relationships. Increase participation in apprenticeships or structured field placements from existing cohorts to 30–40 students annually.

College Goals:

1.2. Increase equitable usage of apprecentiship/internship

SAP Phase:

In Progress

Strengthen Pathways for Equity, Access, and Early Pipeline Development through the Drone Ambassador Program

Short Description:

Expand the Drone Ambassador Program to place Fullerton College student mentors at local K–8 and high school sites in surrounding areas. Ambassadors will support classroom teachers with drone curriculum, hands-on flight exercises, and STEM career exposure aligned with safety and FAA-compliant practices. Develop structured training modules for ambassadors (curriculum delivery, safety protocols, mentorship, cultural responsiveness, asset management). Integrate ambassador program participation with pathways into drone coursework, certificates, apprenticeships, and eventually the BS in Drone & Autonomous Systems. Track pipeline movement from outreach to enrollment to certificate/degree completion to assess program impact on student learning and equity outcomes.

Measurable Outcomes:

Raise female enrollment from 15–20% to 22–25% within three years. Increase dual enrollment and first-time college enrollment by 50 to 75 students annually into Drone Technology courses. Place ambassadors at 10–16 school sites each year, impacting 300–600 K–12 students, depending on program scale. Increase pipeline conversion so that 10–15% of participating K–12 students enroll in Fullerton drone courses within 2–3 years. Boost retention rates for student ambassadors by 3–4 percentage points through paid experiential learning and mentorship roles.

College Goals:

1.1 Equitable Dual Enrollment access; 1.5 Outreach strategies for prospective students/family; 3.2 Reduce equity gaps in degree/certificate completion

SAP Phase:

In Progress

Resource Requests

Ambassador student stipends

Enhancement:

The Drone Ambassadors Program connects trained Fullerton College students from the Drone and Autonomous Systems programs with local K–8 schools to serve as mentors, teaching assistants, and program facilitators for drone education. Ambassadors work closely with K–8 teachers to introduce drone technology in classrooms, lead after-school clubs, guide student teams for the REC Foundation Aerial Drone Competition, and inspire younger students to explore future careers in drones, robotics, and autonomous systems. Through

hands-on demonstrations, competition preparation, and relatable mentorship, the Drone Ambassadors help develop a strong early pipeline into high-demand STEM fields, especially encouraging students to explore Fullerton College's educational pathways in drone and autonomous systems.

Personnel-Related:

Paid ambassador roles directly support persistence, especially for working and first-generation students who might otherwise focus more on jobs than coursework. The estimated cost is $400 per month for each ambassador, with a total of 10 ambassadors. Student mentors promote leadership, professionalism, and communication skills, qualities that employers highly value in drone operations, inspection, and autonomous systems sectors. K-12 schools gain UAS educators, not just hobbyists, which improves teaching quality and shapes how students and parents view drone careers. This builds early confidence and familiarity with drone technology. The Drone Ambassadors work to normalize STEM and careers in autonomous systems among students who typically do not see themselves in those fields. It also creates paid experiential learning roles for Fullerton students, enhances enrollment resilience, and broadens student pathways. They will help strengthen dual enrollment courses and prepare future cohorts for the new bachelor's program, registered apprenticeship, or certificate programs.

Resource Category:

Other

Quantity:

10

Unit Cost:

$1,600.00

TotalCost:

$16,000.00

Projects Coordinator – Drone Technology Program

Enhancement:

The Drone Technology program seeks funding to hire a professional expert to be a Coordinator of Projects to support the execution, tracking, and expansion of program initiatives, including grant activities, industry partnerships, applied research missions, the Drone Ambassador Program, the registered apprenticeship pathways, and the implementation of the bachelor's degree. This position would provide the organizational capacity needed to sustain rapid growth while ensuring compliance, communication, and high-quality student experiences. The program enrollment has increased from 165 students in 2020–21 to 430 students in 2024–25, a 160% increase over four years. Academic offerings have expanded to include: • Multiple workforce certificates (LiDAR, Cinematics, Solar Inspection, Autonomous Industrial Inspection, Maritime ROV) • Registered Apprenticeship (first in the United States) • Bachelor's Degree in Drone & Autonomous Systems (launching 2026) This growth has created a scale of coordination, reporting, and partnership management that is no longer feasible for a single full-time faculty member to handle.

Personnel-Related:

Complexity of External Projects and Partnerships The program regularly conducts large-scale real-world missions: • Wildfire burn scar LiDAR scanning with the Orange County Fire Authority • Coastal water scanning and marine research operations • Film and virtual production collaborations • Utility inspection and infrastructure projects • K–12 outreach across multiple districts Each project requires: • Scheduling • Safety compliance and liability coordination • Mission documentation and deliverables • Student assignment and supervision • Partner communication • Reporting and outcome tracking These responsibilities extend far beyond classroom instruction and require dedicated administrative leadership. Scale of the Drone Ambassador Program The Drone Ambassador Program assigns Fullerton College students to as many as 16 K–12 school sites each year to mentor youth and provide flight training. This requires: • Teacher coordination • Equipment checkout and tracking • Staff training • Contract compliance • Scheduling and onboarding • Outcomes reporting This cannot be sustainably managed by faculty alone without compromising instructional quality, safety, and student experience. Bachelor's Degree Implementation and Accreditation Launching California's first bachelor's in Drone & Autonomous Systems requires: • Upper-division program accreditation and reporting • Internship and apprenticeship tracking • Industry advisory engagement • State, federal, and institutional compliance • Documentation of student outcomes A Projects Coordinator ensures alignment with college goals, reporting requirements, and workforce expectations. Impact on Student Learning and Achievement With a dedicated Projects Coordinator, the program will: • Increase student access and retention • Maintain and expand apprenticeship placements and paid experiential projects • Reduce delays and project cancellations due to logistical bottlenecks • Enable underserved students to participate in real-world opportunities • Improve instructional quality • Faculty spend more time teaching and mentoring • Equipment management, scheduling, and reporting shift to administrative coordination • Strengthen workforce outcomes •

More consistent curriculum-to-employment pathways • Better continuity between projects and long-term partnerships • Increase diversity and representation Expansion of Drone Ambassador pipelines will boost female, first-generation, and dual-enrollment student participation Measurable Outcomes Within the first two years of hiring a Projects Coordinator, the program expects to achieve: • 10–20% expansion in paid experiential student placements per academic year • 3–5 new industry partnerships annually • Increase apprenticeship participation to 40–60 students per year • 2–4 percentage point improvement in course success linked to applied learning access • 50–75 additional incoming students annually through Ambassador and pipeline initiatives Position Responsibilities • Oversee external projects, pilots, and applied missions • Coordinate industry partnerships and communication • Track equipment and site-use logistics • Manage Drone Ambassador scheduling, onboarding, and reporting • Support faculty with grant management and external data requests • Provide project-level assessment and student outcome reporting • Maintain safety and compliance documentation The Drone Technology program has grown well beyond the scale of a traditional single-faculty academic discipline. The Projects Coordinator position is not an administrative luxury; it is a core structural requirement for safely managing high-risk technology, multi-institutional partnerships, and a bachelor's degree–level workforce pipeline. This resource will directly improve: • Student learning and retention • Access for underserved populations • Program sustainability • Safety and compliance • Workforce placement • Institutional visibility and impact

Resource Category:

Non-Faculty Personnel

Quantity:

1

Unit Cost:

$49,500.00

TotalCost:

$49,500.00