



C U Y A M A C A
• C O L L E G E •

Annual Update Report

Academic - Surveying (SURV) - (CE)

Provide students with training on equipment and technology used in the field (Goal 1)

Program Goal: Provide students with training on equipment and technology used in the field

Goal Status: Active

Mapping

2022 - 2028 Strategic Plan: (X)

- **Eliminate Equity Gaps in Course Success:** Provide students with training on equipment and technology used in the field (X)
- **Increase Completion and Eliminate Equity Gaps:** Provide students with training on equipment and technology used in the field (X)
- **Increase Equitable Access:** Provide students with training on equipment and technology used in the field (X)
- **Increase Persistence and Eliminate Equity Gaps:** Provide students with training on equipment and technology used in the field (X)

Summary of Progress or Results

Summary Date: 09/23/2024

Summary of Progress or Results: Continued growth with more to come!

Reporting Period: 2024 - 2025

Status: In Progress - will carry forward into next year

What resources, if any, are needed to achieve this goal? (Select all that apply): New faculty position, Supplies, equipment, and/or furniture

Action steps for this academic year.:

The program's adjunct instructors maintain a strong partnership with Trimble Inc., providing access to their TBC software and potential future equipment donations. This collaboration ensures students have access to cutting-edge technology and resources that align with industry standards, enhancing the relevance and quality of their education.

In the past year, the program acquired eight DJI Mavic 3E drones to support the new "**Unmanned Aerial System (Drone) Technologies**" certificate. With guidance from the Advisory Board, three new courses have been submitted to meet the curriculum requirements for this certificate, ensuring alignment with industry expectations. The Advisory Board, which includes representatives from both public and private sectors, emphasized the importance of creating a pathway for students to learn drone operations, data collection, and analysis. As the certificate program develops, the next steps include finalizing the classroom curriculum to ensure a robust and comprehensive educational experience.

Action Steps

1. Request a Full-Time Faculty Position

Currently, the program relies on adjunct instructors to teach courses. Don Woolley, the program's main adjunct, retired from the industry two years ago but has continued teaching. However, his eventual departure could disrupt instructional continuity. While other adjuncts may step in, a dedicated full-time faculty member is critical to ensuring the long-term stability of the program. A full-time instructor would maximize the use of acquired equipment, such as the drones, and ensure consistent, high-quality instruction.

In addition, instructors for the new drone certificate must hold FAA Remote Pilot Certification, which limits the pool of eligible adjuncts. A full-time faculty member with this certification would provide stability for the new certificate program while also supporting its successful launch and sustainability. This role would also enable the program to grow and promote its offerings more effectively, as the program coordinator currently has limited time to dedicate to these efforts.

Summary of Progress or Results

2. Collaborate with Advisory Board and Industry to Finalize Classroom Curriculum

With the submission of the curriculum forms for the new certificate and courses complete, the focus now shifts to developing the classroom curriculum. Collaborating with the Advisory Board and industry partners will help ensure the curriculum meets industry needs and provides clear guidance to incoming adjuncts who will teach the new courses. This collaboration is essential for establishing stability in the program and maintaining its alignment with professional standards.

3. Supply Budget Augmentation

Over the years, the program has acquired hundreds of thousands of dollars in donated equipment, with Trimble Inc. contributing a substantial amount of cutting-edge technology in recent years. However, our annual supply budget of just \$100 is insufficient to cover even basic needs, let alone the repair and maintenance of this valuable equipment. As a result, we are entirely dependent on donations and volunteer efforts to keep our equipment operational. To ensure stable and consistent student access to these essential tools, it is critical that we establish a meaningful and sustainable supply budget. This will enable us to properly maintain our equipment and provide students with the resources they need for success.

Create apprenticeship program to create opportunities for program graduates (Goal 2)

Program Goal: Create apprenticeship program to create opportunities for program graduates

Goal Status: Active

Mapping

2022 - 2028 Strategic Plan: (X)

- **Eliminate Equity Gaps in Course Success:** Create apprenticeship program to create opportunities for program graduates (X)
- **Increase Completion and Eliminate Equity Gaps:** Create apprenticeship program to create opportunities for program graduates (X)
- **Increase Equitable Access:** Create apprenticeship program to create opportunities for program graduates (X)
- **Increase Persistence and Eliminate Equity Gaps:** Create apprenticeship program to create opportunities for program graduates (X)

Summary of Progress or Results

Summary Date: 09/23/2024

Summary of Progress or Results: Slowly moving forward - Need a full-time faculty member

Reporting Period: 2024 - 2025

Status: In Progress - will carry forward into next year

What resources, if any, are needed to achieve this goal? (Select all that apply): New faculty position

Action steps for this academic year.:

The new Industry Advisory Board is proving to be a valuable resource for networking and fostering relationships with industry partners. Caltrans has expressed interest in establishing an internship pipeline to connect Cuyamaca students with opportunities in surveying, addressing the high demand for professionals in the field. Similarly, Birds Eye Aerial Drones is interested in creating an internship pipeline into their company and the broader drone industry. While these opportunities do not constitute formal apprenticeships, developing and solidifying these internship pathways will enable students to gain real-world experience and directly integrate into the industry before completing the program.

Action Steps

Summary of Progress or Results

Request a Full-Time Faculty Position

Currently, the program relies on adjunct instructors to teach its courses. Don Woolley, the program's primary adjunct, recently retired from the industry but has continued teaching. While we hope other current adjuncts will step in when Don eventually retires from teaching, a full-time faculty member is essential for ensuring the continuity and growth of these internship and industry partnerships. A dedicated faculty member could fully develop and sustain these relationships, maximizing their long-term potential and supporting students' successful transition into the workforce.

Increase stability of surveying instruction by hiring a full-time instructor (Goal 3)

Program Goal: Increase stability of surveying instruction by hiring a full-time instructor

Goal Status: Active

Mapping

2022 - 2028 Strategic Plan: (X)

- **Eliminate Equity Gaps in Course Success:** Increase stability of surveying instruction by hiring a full-time instructor (X)
- **Increase Completion and Eliminate Equity Gaps:** Increase stability of surveying instruction by hiring a full-time instructor (X)
- **Increase Equitable Access:** Increase stability of surveying instruction by hiring a full-time instructor (X)
- **Increase Hiring and Retention of Diverse Employees:** Increase stability of surveying instruction by hiring a full-time instructor (X)
- **Increase Persistence and Eliminate Equity Gaps:** Increase stability of surveying instruction by hiring a full-time instructor (X)

Summary of Progress or Results

Summary Date: 09/23/2024

Summary of Progress or Results: Hopeful!

Reporting Period: 2024 - 2025

Status: In Progress - will carry forward into next year

What resources, if any, are needed to achieve this goal? (Select all that apply): New faculty position

Action steps for this academic year.:

In the 2022-2023 academic year, three course sections in the surveying program were canceled because an instructor withdrew their commitment just one week before the semester began. With only three different surveying courses in the program, this represented a significant disruption. Unfortunately, a similar issue occurred again in Fall 2024. Since these courses are offered only once per year, affected students had to either wait an entire year to enroll or find alternatives elsewhere. Given that the only other local surveying program is in Los Angeles, such delays disproportionately impact students without the resources or support to manage a major interruption in their education. Consistent course offerings are critical to maintaining student trust and ensuring that the program is accessible to all, particularly those with limited resources.

The introduction of the "**Unmanned Aerial System (Drone) Technologies**" certificate adds an additional challenge. Teaching this certificate requires FAA Certified Remote Pilot certification, which significantly limits the pool of eligible adjunct instructors. Without a dedicated full-time faculty member, it may be difficult to find instructors with the necessary qualifications to sustain the certificate long-term. A full-time faculty member would bring stability to the program, ensuring that courses and certificates are offered consistently and without interruptions. This stability would also strengthen the industry relationships that the program has been actively fostering, further enhancing opportunities for students.

Summary of Progress or Results

Action Steps

Request a Full-Time Faculty Position

Currently, the program relies entirely on adjunct instructors to teach its courses. Don Woolley, the program's primary adjunct, retired from the industry but has continued teaching. While other adjuncts may step in when Don retires from teaching, this reliance creates significant risks for program continuity. A full-time faculty member would ensure that courses are consistently offered, provide long-term stability for the new certificate, and help maintain and expand the program's industry partnerships. This position is essential for sustaining and growing the program effectively.

Program Overview and Update

Lead Author

Keenan Murray

Dean/Manager(s)

George Dowden

Initial Collaboration Date with Dean

11/18/2024

Please summarize the changes, additions, and achievements that have occurred in your program since the last program review.

Over the past year, we acquired eight DJI Mavic 3E drones to support the development of a new Surveying certificate, "**Unmanned Aerial System (Drone) Technologies**". In Fall 2024, I submitted curriculum forms for three new courses designed to align with this certificate. The certificate's content was outlined in collaboration with our Advisory Board, which has also expressed interest in contributing to the classroom curriculum. Since the Advisory Board includes representatives from both public and private sectors, the curriculum is expected to address a wide range of industry needs, ensuring its relevance and applicability across the field.

Assessment and Student Achievement

After looking at the SLO information for the past year in Nuventive Improve, are you on track for the 4-year assessment cycle?

No

If you answered no above, please describe the department's plan to ensure SLOs are assessed every 4 years.

First, the Nuventive SLO data for our SURV-218 course is incorrect, as it was accessed SP23 and is documented on our website.

That aside, our SURV-220 and SURV-240 courses have not been assessed since 2017. These courses are offered this coming spring, so we will make sure to assess them SP25. As SURV-220 and SURV-240 are generally offered in the spring semester (year 2022 was an exception), we can plan to assess SLOs every spring semester.

Which courses have not been assessed in the last 4 years?

SURV-220 and SURV-240

If you did not assess in the last year, please share why, including whether your program is experiencing barriers to assessment or data submission, and/or if your program would benefit from outcomes and assessment support.

For surveying, it is a work culture issue. First off, I rarely see our adjuncts as they teach on Saturdays and I am not on campus on Saturdays. Additionally, since our adjuncts are mostly working professionals, many of them do not attend Flex-week/Professional Development. So I must try to encourage them to assess SLOs over email. This requires more effort on my part, and with running 3 programs with only 30% reassign time, I tend to not to prioritize the follow-up with the surveying instructors about assessing SLOs as I tend to have to triage my to-do list.

Some possible solutions could include:

- More reassign time for running programs
- Assistance requesting SLO data from the adjuncts- this worked well with Don Woolley SURV-218 in 2023 :)
- Maybe a system that requires submission of SLO data before final grades are submitted? Its forceful and inconvenient, but it would more easily create a semester norm for submitting SLO data?

Annual Update

Please share any outcomes assessment projects your program has worked on in the last year, including SLOs on Canvas, PLOs by ACP, Equitable Assessment Strategies (innovative collective/common assessments, project-based, work-based learning, student-centered, etc.), or other.

N/A

Student Achievement

Please discuss any equity gaps in access or success.

The Surveying program exhibits consistently high retention rates, with most demographic groups achieving rates above 90%. Male students dominate enrollment and consistently display higher success rates, while female students, despite lower enrollment numbers, show variable success outcomes, with occasional declines compared to their male counterparts. In terms of race and ethnicity, White Non-Hispanic and Middle Eastern or North African students maintain both high retention and success rates, indicating strong performance in these groups. Hispanic/Latino students, a prominent demographic within the program, show stable retention rates but experience occasional dips in success rates, which highlights disparities compared to other groups. The data also reveal challenges in analyzing equity gaps for underrepresented groups, such as African-American/Non-Hispanic, American Indian/Alaskan Native, Pacific Islander, and Asian students, due to their small sample sizes.

What action will the department or discipline take to address these equity gaps?

Outreach initiatives are essential for attracting a more diverse student population to the Surveying program. Collaborating with local high schools, community organizations, and industry professionals helps raise awareness about surveying as a viable and rewarding career path, particularly among underrepresented groups such as female students, Hispanic/Latino students, and other minorities. With the support of adjunct faculty member Don Woolley, we have participated in several outreach events at local high schools to promote engagement and diversity within our program. However, both Don and I face significant limitations in the time we can dedicate to these efforts. To expand and sustain these vital activities, we will once again request a full-time faculty position to support the program and lead outreach initiatives that neither Don nor I can fully manage on our own. Beyond recruitment, addressing equity gaps also requires academic support services tailored to the needs of students facing success rate challenges. Peer tutoring, supplemental instruction, and workshops focused on foundational skills in surveying could make a meaningful difference. These services would be especially beneficial for surveying students, who often attend Saturday courses when most on-campus resources are unavailable. Additionally, many students, already balancing full-time jobs, are mentally fatigued after a full day of Saturday classes, making weekday support impractical. Innovative solutions are needed to provide accessible academic assistance without requiring students to return to campus during the week.

To further foster equity, faculty development initiatives emphasizing culturally responsive teaching and inclusive curriculum design are critical. Programs like EMTLI (Equity-Minded Teaching and Learning Institute) and Humanizing STEM have proven effective in enhancing student engagement and success. I plan to encourage our adjunct faculty to participate in these trainings, as they have positively impacted my own teaching practices and supported similar efforts in other programs. By combining outreach, tailored academic support, and faculty development, the program can make meaningful strides toward closing equity gaps and supporting all students.

Please describe any enrollment changes (increases/decreases) over the past year and the context for these changes.

Enrollment trends in the Surveying program reflect notable fluctuations over recent terms. Overall enrollment has varied significantly, with an increase observed in Spring 2024, where the program recorded 45 enrollments compared to 20 in Spring 2023. This marks a substantial growth in participation, indicating a rising interest in the program or possibly the success of recruitment efforts. Similarly, Fall enrollment shows some variability, with Fall 2022 reaching a peak of 37 enrollments before declining to 14 enrollments in Fall 2023. This was caused by an off-cycle offering of SURV-220 and SURV-240 in Fall 2022 that was not replicated in Fall 2023.

Demographically, enrollment remains predominantly male, with male students consistently representing a significant majority across all terms. Female participation, while smaller in comparison, remains relatively steady but has yet to show significant growth. In terms of racial and ethnic composition, Hispanic/Latino students comprise a meaningful portion of the student body, reflecting the diversity of the broader college population. However, some groups, such as African-American/Non-Hispanic, American Indian/Alaskan Native, and Pacific Islander students, show low or inconsistent representation, which limits broader demographic engagement in the

Annual Update

program. These trends suggest opportunities to further explore and address factors influencing enrollment, such as outreach efforts, program visibility, and accessibility for underrepresented groups.

If your program has seen a significant decline in enrollment over the past year, what resources or support would be helpful to improve program enrollment and access?

N/A

What has this data revealed about the progress of the program review goals you set?

Our current program goals are:

- 1) Provide students with training on equipment and technology used in the field
- 2) Create an apprenticeship program to create opportunities for program graduates.
- 3) Increase stability of surveying instruction by hiring a full-time instructor

While the available data does not directly demonstrate a connection to the first two goals, we have made strides in key areas. We have expanded student access to equipment and technology, ensuring they gain practical experience with industry-standard tools. Additionally, we have been individually connecting students with job opportunities, fostering career development on a more personalized level. These efforts may have contributed to the observed trend of increasing enrollment in the Surveying program.

We are optimistic that the fluctuating yet steadily increasing enrollment in the Surveying Program, coupled with our commitment to providing better support for our students, will strengthen our case for achieving our third goal: hiring a full-time instructor to bring stability and continuity to the program.

Distance Education Course Success (If Applicable)

If your department offers distance education classes, how do you ensure Regular and Substantive Interaction (RSI) is being implemented?

N/A

Program Goals

Submission

Program Review response is complete and ready for review.

Yes - Response complete and ready for review