



DRONE TECHNOLOGY MEETING MINUTES

March 28, 2023 | 5:00 PM | Room 1601

Meeting Agenda

LPC Mission Statement

Las Positas College is an inclusive, learning-centered, equity-focused environment that offers educational opportunities and support for completion of students' transfer, degree, and career-technical goals while promoting lifelong learning.

LPC Planning Priorities

- ❖ Implement the integration of all ACCJC standards throughout campus structure and processes.
- ❖ Establish a knowledge base and an appreciation for equity; create a sense of urgency about moving toward equity; institutionalize equity in decision-making, assessment, and accountability; and build capacity to resolve inequities.
- ❖ Increase student success and completion through change in college practices and processes: coordinating needed academic support, removing barriers, and supporting focused professional development across the campus.

Drone Advisory Board

Members

Gabrielle Wright, Hayward Police Dept. Drone Program
Greg Bringedahl, Parallel Flight Technologies
Inez Ayerra, Bond Measure Construction Team
Jon Czarnik, DBIA, Construction Manager
Mathew Hardgrove, US Coast Guard
Richard Hassna, Sheriff

Members Present (non-voting):

Vicki Shipman
Helena Cruz

1. Welcome and Introductions: Greg Bringedahl, Inez Ayerra, Mathew Hardgrove, Dan Cearley, Helena Cruz, Deanna Horvath, Jon Czarnik

2. Faculty Report

Our inception: What programs could benefit from drones? Photography, Viticulture, Public Safety. UAS Registered by Public Safety Agencies: county, municipal, state, federal/tribal, and a broad industry trend. See

www.goldmansachs.com/insights/technology-driving-innovation/drones/

Construction and agriculture are two huge areas for growth.

Our goals: We have a wide vision for the program, broad types of uses for drones, integrate with many programs at LPC, and offer many choices for students to suit their interests. See our webpage at

<https://www.laspositascollege.edu/dronetechnology/>.

We were able to secure two Perkins Grant internships. These grants run projects on campus to get our students' direct experience and research projects collecting data and incorporating learning into our classes.

2.1 Overview of courses (three classes)

NAVI 201 Orientation to Drones and (UAS) – skill-based and mapping exercises.

1. Introduction Discussion (In-person/online),
2. FAA Trust Exam and Certification (Online),
3. Linear Flying Skills,
4. Square maneuvers,
5. Circular maneuvers – Based on the National Institute of Standards and Technology.

NAVI 202 Drone Aerial Survey, Photography, and Videography

More project-based courses,

1. Introduction Discussion (In-person/online),
2. FAA Trust Exam and Certification,
3. Exercise 1 – Shutterbug: Composition & “Rule of Thirds.”
4. Exercise 2 – Shutterbug: Point of Interest.
5. Exercise 3 – Shutterbug: Pull Away, Pan, and Reveal,
6. Exercise 4 – Mapping: Topographical Survey

NAVI 203 FAA Remote Pilot Certificate Exam Preparation

- 4-week Hybrid (online) courses with Saturday Hands-on Sessions

DRONE TECHNOLOGY MEETING MINUTES

March 28, 2023 | 5:00 PM | Room 1601

1. Introduction Discussion (In-person/Online)
2. 4 Weekly Quizzes (12 in total)
3. Final Exam **Non-Credit/No Cost/Repeatable**
Certificate of Completion (Noncredit)

2.2 Enrollment

2.3 Demographics

NAVI 201 - Males 22, Females 10 (ratio two to one), Adolescent (very few) to young (20 to 35), and middle (35 to 50) to older adults (over 50).

NAVI 202 – a very similar demographic with male and female, but lower males, shift from older adults to younger adults

NAVI 203 – few females enrolled and a pass rate of 55%. The online class and Canvas could be a problem for students. Or, students may have decided not to pass the test.

2.4 Successes/Challenges

Students are developing skills; some people have never used a controller before, and it is difficult to keep everyone on track; overconfidence builds quickly. If you give people more direction and instructions and tell them exactly what to do, students will follow this. Very ambitious projects but students didn't necessarily come away with how to fly or do a nice pan.

Created for Spring – Exercise-based photo/mapping, gave specific exercises that worked better with more focused tasks.

Navi 203 FAA remote pilot certificate exam has a low completion rate, and it's easy for students to fall behind.

- 2.5 **Student feedback** – (1 to 3) credit courses are desired in 8-week or 16-week classes from students and faculty. Or separating the mapping from the videography. Short training classes that can be industry specific. NIST Training, programming, and fabrication, maintenance and repair.

2.6 Fall/Spring Schedule

- 2.7 Proposed Changes (Expanded Curriculum non-credit/credit)

- 2.8 Proposed Changes (Workshops for staff – M&O/Public Safety/Others)

3. Industry Updates

3.1 Discussion of needs for training related to skills, experience, etc.

Program – Do you know what percentage of NAVI complete to take the FAA test – two students? Dan suggested he would follow up with the students. An idea is to have students return to class and discuss the test with others. Construction applications – we have three things to develop best practices for construction: one inspection camera, general mapping with high-resolution imagery, and 3-D point modeling. Is there a need to separate the enthusiasts from the career-minded? Yes, the non-credit aviation classes are very good for enthusiasts. Beginner to professional courses or career-minded commercial. Suggested not to split into two directions with career or enthusiasts. Learning to fly is the

DRONE TECHNOLOGY MEETING MINUTES

March 28, 2023 | 5:00 PM | Room 1601

goal. A for-credit class might provide more of a commitment to finish the class. We don't split the classes and offer a two-credit class with photography and videography and one with GIS drone mapping.

- 3.2 **Discussion of needs on certain equipment, aircraft, sensors, etc.** Construction is a growing industry, and LPC is being asked for these services. GIS processing. A person might need 2 or 3 flight mapping flights and more time with flying and post-processing to get a sense of how to use the drone. Adding more non-credit classes is an option.
- 3.3 **Discussion of needs for training on certain software** – Developing an aviation maintenance technology program. Starting to see some drone maintenance. There is another option to train students to repair drones.

4. **Recommendations from the Advisory Board** – Shifting the class schedule and a summer camp for kids and adults. David – would like to see an impact on numerous programs, and a summer drone skills camp may be able to do that. This could be overlapped with welding, horticulture, theater, athletics, public safety, fire, and even automotive.

5. **Next Regular Meeting Date - Tentative - Fall 2023, Tuesday, October 17th, from 5 pm to 6 pm**

6. **Adjournment**