CU AIR

CORNELL UNIVERSITY UNMANNED AIR SYSTEMS

SPONSORSHIP INFORMATION

2025 - 2026

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Thank you for your interest in CUAir

ABOUT THE TEAM

INTRO

CUAir is a diverse group of highly motivated and dedicated students who aim to stimulate and foster interest in unmanned air systems, technology, and careers.

FOCUS

To design and manufacture an unmanned aerial system (UAS) capable of completing various autonomous operations including: waypoint navigation, image processing, payload delivery, and target recognition.

To compete in the CSU – California Unmanned Aerial Systems Competition (C-UASC).

To remain at the highest level of innovation and technology, we heavily rely on external sources to further our research and success.

SUBTEAMS

OUR INFRASTRUCTURE

CUAir is broken down into eight subteams.

These teams must work together through the year to design, implement, and present an innovative custom aerial system to achieve victory at AUVSI SUAS.

AIRFRAME

The Airframe subteam is responsible for all of the aerodynamic components of the plane.

INTEGRATION AND TESTING OPERATIONS

The Integration and Testing Operations subteam is responsible for the testing of aircraft systems and a diverse variety of projects crucial to the aircraft's flight readiness and competition success.

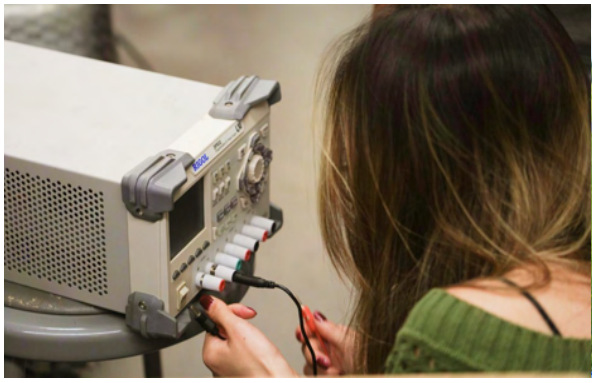
SUBTEAMS CONT.

STRUCTURES AND PAYLOADS

The Structures and Payloads subteam develops the internal mechatronics of the aircraft.

ELECTRICAL

The Electrical subteam handles the electrical hardware for the aircraft and the ground system.



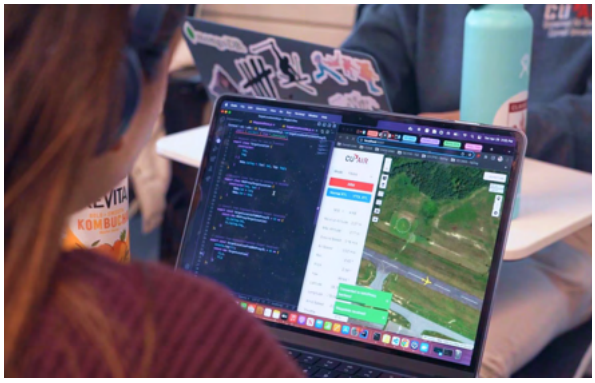
DESIGN AND OPERATIONS

The Design and Operations subteam works on projects that fall between the intersection of business, technology, and design.

SUBTEAMS CONT.

AUTOPILOT

The Autopilot subteam is responsible for ensuring that the aircraft can perform all necessary maneuvers to fulfill the mission requirements.

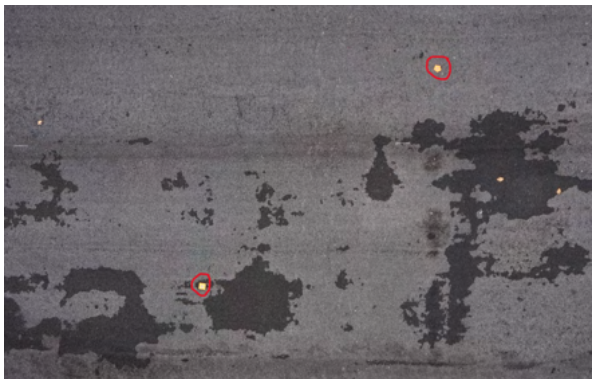


IMAGING SYSTEMS

The Imaging Systems subteam designs and implements the software infrastructure on the plane's onboard computer and the ground server.

INTELLIGENT SYSTEMS

The Intelligent Systems subteam manages the system's object detection, localization, classification, and obstacle avoidance.



ATLAS

SPECIFICATIONS

- Double boom, twin props, carbon fiber, Nomex honeycomb core, fiberglass composite.

Length	2.5 m
Weight	24.9 kg
Wingspan	3.25 m
Flight Time	12 mins
Cruise Speed	25 m/s

Highest strength to weight ratio and greatest payload efficiency yet

CAMERA

- Sony R10C with an E384/6 mapping sensor package. This allows for faster data collection and post-processing.
- Mounted on a customer two-axis gimbal which stabilizes the camera and enables precise targeted image capture.

PROPULSION

- Four T-Motor MN-801-S motors for vertical flight
- One Scorpion SII-5535-160KV for horizontal flight

AVIONICS

- Pixhawk 2.1 running modified ArduPilot 4.2 firmware; customized waypoint path following algorithm using Bezier Spline Curves.

THE COMPETITION

WHAT	California Unmanned Aerial Systems Competition (C-UASC)
WHERE	Mojave Air & Space Port @ Rutan Field, Mojave, California
WHO	Teams from around the world
WHEN	June 7th, 2025

WHY

Competition Mission Statement:

“The competition requires students to design, integrate, and demonstrate a small Uncrewed Aerial System (sUAS) capable of safe flight and the execution of a set of tasks.”

THE MISSION

The C-UASC is broken down into two parts:

> Design Competition

Submission detailing flight qualification, design documentation, and innovative solutions to competition tasks.

Eligible for Design and Innovation Award

> Mission Demonstration

The team's UAS is deployed and must demonstrate the mission requirements, including waypoint navigation, payload delivery, and target recognition.

ACCOMPLISHMENTS

2016

2nd Place Overall

- 2nd in Mission
- 2nd in Oral Presentation

2017

2nd Place Overall

- 1st in Journal Paper
- 2nd in Flight Readiness Review
- 3rd in Mission

2018

4th Place Overall

- 1st in Journal Paper
- 1st in Flight Readiness Review
- 4th in Mission

2019

7th Place Overall

- 1st in Flight Readiness Review

ACCOMPLISHMENTS

2022

8th Place Overall

> Most Innovative Award

2023

4th Place Overall

> Most Innovative Award

2024

19th Place Overall

> 4th in Mission

Most Innovative Award

2025

2nd Place Overall

> 2nd in Flight Competition

2nd in Design and Innovation Competition

OUTREACH

COMMUNITY OUTREACH

Throughout the year, the Design and Operations subteam hosts numerous events to foster passion for STEM and encourage interest in our team. This past year, CUAir has hosted events with organizations such as the Society of Women Engineers (SWE) and the local Ithaca community.

THE MISSION

> Bringing students together

from across multiple departments and interests to achieve a common goal.

> Further research

and contributions to the field of autonomous unmanned systems.

> Inspire education

through real world, practical endeavors outside of the classroom.

ADVANTAGES

> Increased recruiting presence

on campus with direct access to all members of the team; each member has practical experience in UAS technology and engineering.

> Exclusive CUAir resume book

> Increased PR

through corporate logos on our aircraft and grateful acknowledgement on the team's website

> Tax deductible contributions

SPONSORSHIP LEVELS

PILOT

$10,000+

- Resume book
- Large corporate logo on the aircraft
- Priority meeting with any members of the team
- Information session open to the greater Cornell community on behalf of your company
- Large corporate logo on the competition poster
- Personal thank you letter from CUAir
- Acknowledgement on our team website complete with corporate logo

FIRST CLASS

$4,000+

- Resume book
- Medium corporate logo on the aircraft
- Information session open to the greater Cornell community on behalf of your company
- Medium corporate logo on the competition poster
- Personal thank you letter from CUAir
- Acknowledgement on our team website complete with corporate logo

SPONSORSHIP LEVELS

BUSINESS CLASS $1,000+

- Resume book
- Small corporate logo on the aircraft
- Small corporate logo on the competition poster
- Personal thank you letter from CUAir
- Acknowledgement on our team website complete with corporate logo

ECONOMY CLASS $100+

- Resume book
- Personal thank you letter from CUAir
- Acknowledgement on our team website complete with corporate logo

SPONSORS

2024-2025

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Ansys

Altium

HiTEC MULTIPLEX®

T-MOTOR®
THE SAFER PROPULSION SYSTEM

SKB CASES

Cornell Engineering

Rock West COMPOSITES

THANK YOU

CONTACT US

INTERESTED?

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THANK YOU.