

AIAA Design/Build/Fly

Faculty Adviser: Professor Robert H. Liebeck Advisers: Colin Sledge, Paul Parcell, Joseph Hsieh

UCI Samueli

School of Engineering





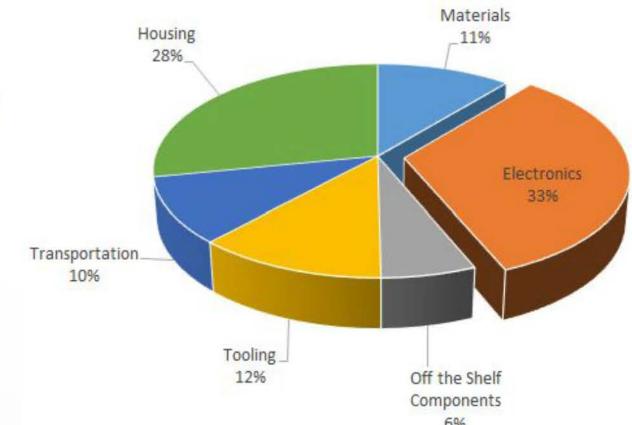




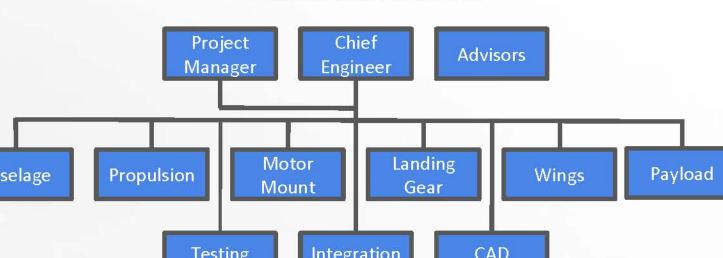




Project Costs & Expenditures



Grand Total: \$4200



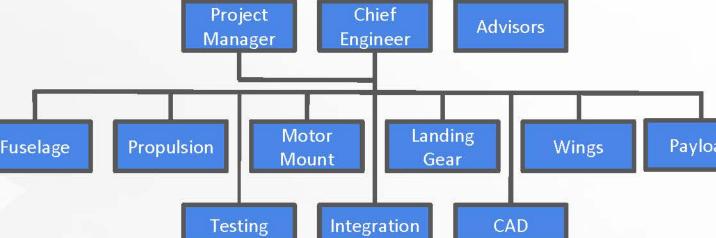
James Bechler	Tina Nguyen
Brian Chen	Aakash Patel
Adrienne Dao	Andrew Reuter
Erick Hernandez	Marlon Sevilla
Sam Hince	Nathan Yeung
	Brian Chen Adrienne Dao Erick Hernandez

For further inquiry, contact:

Chief Engineer Nathan Yeung

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Team Structure



Team Members

James Bechler	Tina Nguyen
Brian Chen	Aakash Patel
Adrienne Dao	Andrew Reuter
Erick Hernandez	Marlon Sevilla
Sam Hince	Nathan Yeung

Project Manager Marlon Sevilla

Email: dbf.uci.sdp@gmail.com For more information, visit http://www.aiaadbf.org

What is Design/Build/Fly?

AIAA Design/Build/Fly is an annual international remote-controlled aircraft competition that allows teams to apply their analytical skills and showcase their cooperative efforts in building real-world aircrafts. Students must design, manufacture, and demonstrate the flight capabilities of an aircraft that can perform in a series of different flight scenarios.

Goals and Objectives

- Design an aircraft based on the given rules and constraints
- Develop and apply innovative, practical, and affordable fabrication techniques
- Document and compile design, manufacturing, and testing process into industry-standard written report

Requirements and Constraints

- Must have a minimum wingspan of 4 feet
- Aircraft must fit in a 3x2 foot box in stowed condition
- Takeoff within a 10 ft on a ramp
- o Must be capable of carrying at least 4 stores

Payload 1

o 1.55 oz. radome

Balsa Wing

- o Laser cut balsa ribs ensure consistent and quick production
- Can fold and unfold remotely
- o Lightweight, able to withstand over 4Gs of force during flight

Competition Mission Objectives

Ground Mission

Assemble the radome and stores onto the plane as fast within 5 minutes.

as possible

Fly 3 laps with no payload

Mission 1

Mission 2

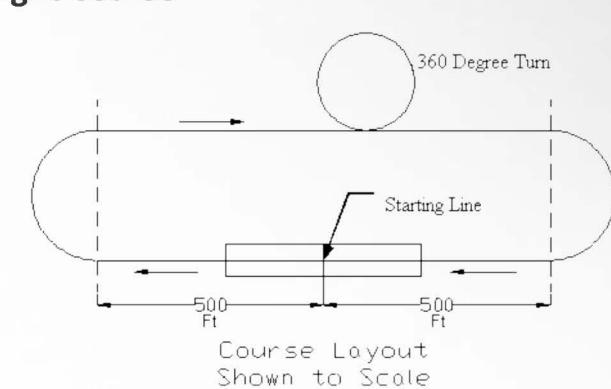
Fly 3 laps as fast as possible while carrying the radome

Fly one lap for each store carried and drop one store per lap within 10 minutes.

Mission 3

Flight Course

within 5 minutes.



Motor Mount

- o 3D printed mold for easy part release post-curing
- Lightweight, carbon fiber based motor mount
- Able to withstand vibrations and forces from propulsion

Timeline

October 31, 2018 Submit Proposal

February 22, 2019 Submit Design Report

Payload 2

o 12 x 2 oz. stores

April 11-14, 2019 Contest Fly-Off