AIAA Design/Build/Fly

Faculty Advisor: Professor Robert H. Liebeck
Advisors: Colin Sledge, Joseph Hsieh, Paul Parcel, John Chen

What is Design/Build/Fly?
Design/Build/Fly is an annual competition sponsored by the AIAA, Textron, and Raytheon that challenges students to design, manufacture and optimize an aircraft to meet competition requirements.

Goals and Objectives
- Develop the engineering, teamwork, and communication skills
- Optimize the aircraft through an iterative process of aircraft development and testing
- Continue to document all processes related to operations, management, design, development and optimization
- Develop an aircraft that is able to yield the highest score at the 2018 AIAA DBF Competition

Flight Course

Competition Mission Objectives

<table>
<thead>
<tr>
<th>Ground Mission</th>
<th>Mission 1</th>
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<tbody>
<tr>
<td>Removal and replacement of two Line Replaceable Units (LRUs)</td>
<td>Complete three laps without payload within five minutes</td>
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<tr>
<td>Mission 2</td>
<td>Mission 3</td>
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<tr>
<td>Complete three laps with &quot;passengers&quot; as quickly as possible</td>
<td>Complete as many laps as possible with cargo and passengers in under ten minutes</td>
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Requirements
- Must take off in under 150 feet
- Must use NiMh or NiCad batteries
- Must have LRUs
- Low empty weight
- Short wingspan

Timeline
- January 1 to February 22
- February 22 to April 19
- April 19 to April 22

- Aircraft preliminary and detailed design
- Structural, propulsion and flight testing
- Design report writing
- Competition in Wichita, Kansas
- Extensive ground testing for replaceable units and passenger restraints
- Regular flight tests to improve flight performance

Team Members

- Chief Aerodynamics Engineer: Ryan Razo
- Project Manager: Ryan Luu
- Chief Structural Engineer: Kevin Sadeghian
- Propulsion: Alejandro Montiel
- CAD: Marlon Sevilla
- Landing Gear: Jake Pan
- Molding: Oguzhan Ozhan
- Motor Mount: Michael Pagdonsolan
- Flight Test: Samuel Hince
- Integration: Nathan Yeung
- Fuselage: Wesley Platt
- Cockpit: Tina Nguyen
- Packaged: Wael Shuaibi
- Motor: Karen Torres
- Landing Gear: Jake Pan
- Motor Mount: Michael Pagdonsolan

Contact the DBF Team
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Co-Chief Engineer: Kevin Sadeghian
Email: ksadeghi@uci.edu

Facebook: https://www.facebook.com/dbfuci/
For more information, visit: www.aiaadbf.org/

Costs & Expenditures
Grand Total: $4,804.09

- Mechatronics
- Fabrication Materials
- Transportation
- Tooling
- Housing
- Off the Shelf Components

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