**Problem Statement**

- Design a flight-worthy unmanned aerial vehicle with ability to carry payload of onboard computer, autopilot, camera, GPS, and other sensors and components

- Enter and win 11th Annual Association for Unmanned Vehicle Systems International (AUVSI) Student Unmanned Aerial Systems (SUAS) Competition

**Potential Designs**

- MQ-9 Reaper
- Skyrider Glider
- Piper J3 Cub

**Design Objectives**

- Capable of takeoff and landing in crosswinds of 8 knots with gusts up to 12 knots
- Operate in temperatures up to 110°F
- Capable of mission completion after exposure to temperatures of 100°F up to 10 hours
- Total weight no more than 55 lbs
- Must complete specified mission within 40 minutes
- Acquire a maximum airspeed of 115 mph
- 25% of body must be brightly colored for recognition in the air
- Must have proper fail-safes in order, both electrical and mechanical

**Design Considerations**

- Required flight time needs to be 40 minutes
- Design must be able to carry ~10 lbs payload
- Chosen design must be able to be modified to retrofit necessary electronic components

**Design Motivations**

- Provide small portable UAV with image recognition.
- Provide product with minimal cost for desired applications
- Complete desired flight path for competition in fastest time possible with all images captured.

**Team**

- Josh Bayliss
- Richard Martinez
- Francisco Bolanos