**OBJECTIVES**

Determine the most optimal UAV design that satisfies the AUVSI SUAS requirements and complete the following:

1. Mission Demonstration tasks
   a) Autonomous Flight and Waypoint Capture
   b) Object Detection, Classification, and Localization
   c) Air Delivery: Drop UGV
   d) Interoperability: Real-time data transfer to and from judges
2. Technical Design Paper
3. Flight Readiness Review

**DESIGN REQUIREMENTS**

To accomplish the Mission Demonstration tasks, the design specifications for our UAV are the following:

- Max takeoff weight is 55lbs
- Aircraft must be able to operate in 15 to 20 knot winds
- UAS must fly autonomously for at least 3 minutes
- Entire payload can weigh up to 64 oz
- Operate at 1 Hz for aircraft telemetry
- Flight time: 30 minutes maximum
- Avoid cylindrical objects with radius between 30ft and 300ft and height between 30ft and 750ft
- Teams must be able to operate without competition provided electrical power for up to 10 minutes