Project Plan

The plan for completing this design project can be broken into five different categories, each with their own number of activities. They are project management, research, design, prototype and competition. Project management deals with the day to day management of the project team, as well as the completion of the required deliverables and presentations. Research covers the overall research into the competition rules, past competitors' designs, and research into the separate components of the design project. The design category contains the four steps of the project design process, as well as the individual design of all the specific components. Prototype deals with physically building the aircraft, testing the aircraft and preparing for the competition. The competition category contains the final steps of the design project goal, which are the requirements of entry into the competition, as well as the completion of the actual competition. Below are descriptions of the individual activities found in each activity category.

<u>Project Management</u>

NAPS- Needs Assessment and Project Specification report

Project Specifications- Project Specifications and Project Plan report

CDR Presentation- Conceptual Design Review Presentation and report

IDR Presentation- Interim Design Review Presentation and report

FDR Presentation- Final Design Review Presentation and report

<u>Research</u>

Blanket Research- General widespread research

Specified Research- Narrowed down research

Design Research- Research targeting design concepts

Structure Research- Research on aircraft structure

Propulsion Research- Research on aircraft propulsion

Materials Research- Research on aircraft materials

Power Research- Research on aircraft batteries, power supply

Controller Research- Research on aircraft autopilot, camera servos

Sensor Research- Research on aircraft cameras, autopilot sensors, GPS

Design

Concept Generation- Generating concepts for the aircraft design

Concept Selection- Selecting the best concept for the design of the aircraft

Design Refinement- Refining the conceptual design

Final Design- Finishing the design of the aircraft

Structure Design- Design of the aircraft structure

Propulsion Design- Design of the aircraft propulsion systems

Materials Design- Design of the aircraft materials

Power Design- Design of the aircraft power supply systems

Controller Design- Design of the aircraft autopilot, camera servos

Sensor Design- Design of the aircraft cameras, autopilot sensors

Prototype

Part Ordering- Ordering parts to complete the design components

Initial Testing- Testing the individual components upon completion

Intermediate Testing- Testing the components compatibility with one another

Final Testing- Testing the final aircraft design with all components integrated

Final Prototype- Completing the aircraft design and full operational readiness

Competition

Application- Competition application/entry fee

Clearance- Proof of prototype flight/ team member security clearance for flight line entry

Journal - AUVSI document required for competition

Compete- Actual competition