



# Scarlet Hawk IV

Status Report: March 2016

AIAA - IIT

## Summary:

In the past month, we have accomplished a good amount, but unfortunately there have been a few setbacks. For one, the PCB has been taking longer than anticipated to complete, as the hardware team has been working hard to organize the best possible layout for the inside of the payload. Our structural team has made good progress with their work however, having completed preliminary designs for our internal support structure. They simply need to complete the finishing touches on the models and fine tune them for 3D printing.

The software team has made great strides and has completed most of the programming necessary for the sensor breakout boards, which simply need to be tested at this point. With the arrival of the transceivers, the hardware and software teams can begin working together to get the communications up and running.

The individual group progress is reported below.

## Upcoming Deadlines:

- April 10, 2016: Receive boards from OSH Park
- April 16, 2016: Complete board assembly
- April 21, 2016: Attempt communication of offset and ground data
- April 27, 2016: Construct FRP shell

Our team structure is as follows:

Faculty Advisor: Dr. Murat Vural

Project Manager: James Henry

Team Leaders: Alan Grossman (Structural)

- Melissa Alkan
- Vaishnavi Sreenivash
- Gregory Enriquez
- Ibon Rementeria
- Gina Kapadia
- Noah Griffith
- Jaime Anton

Jacob Freeman (Software)

- Ian Gustafson
- Simon Sai

Kevin Hardin (Hardware)

- Caterina Lazaro
- Leslie Villanueva

- Sergio Gil
- Timothy Bender

**Structure:**

The structure team has completed both the internal and external designs for our payload. We would have already started on construction of one, but this past week we had to make slight modifications to one of the walls of the main structure. For the FRP outer shell, we intend to heat and form the FRP into a sealed container which can be fastened onto the baseplate.

**Hardware:**

The hardware team has taken a divide and conquer approach with the PCB this past month, and the boards have been finalized. With the completion of the boards, we can now await their arrival from the manufacturer and then assemble our different set ups. The transceivers will be the hardest part of the assembly, as the chip is roughly 1cm x 1cm with 8 pins on each side. However, it is nothing we can't handle.

**Software:**

The software team has completed modification of all of last year's code that was transferrable. Luckily, many of our sensors are the same as last year, and the only new components are the pressure sensor, Geiger counter, GPS, and the transceiver. With each of these components, the software team is on standby reading documentation until the boards are manufactured and assembled.