TASKS FOR NEW MEMBERS

**Groundstation Hardware Supervisor: Mitch**

Now that BLUEsat's launching on a balloon, we need a portable ground station we can mount in the back truck as we race around the countryside tracking the mission. The gear exists and operational in a lab, but we need a reliable and structurally sound way to install it in a vehicle. This is an open ended problem, and the Ground station Hardware team will also need to address issues such as a power source, antenna mounting and actually finding a BLUEsat-mobile!

**Battery Mounts Supervisor: Tom**

The batteries of BLUEsat need to be firmly secured to Tray 3 of the satellite. As the size of the batteries has changed, a new solution to this problem has not yet been devised. The design must take into consideration the thermal properties of the batteries as they charge and discharge.

**Antenna Mounting Supervisor : Varun**

Bluesat is designed to have 5 antennas in total, 4 transmitting antennas to be mounted on the bottom and one to be mounted on top. The length and proposed orientation of the antennae have been designed. Antennae mounts and material need to be selected to ensure solid mounting points and adequate transmission and reception.

**Ground Station Software Supervisor: Sam**  
Ground station will use a variety of hardware devices to communicate with BLUEsat. These devices include a Kantronics Modem and Yaesu Radio Transceiver. Software is needed to create a simple user interface for control of the Groundstation Hardware. The Software will be responsible to take simple instructions such as requests for information from the satellite and then control the modem and radios to send the correct messages. It will also need to retrieve the information by reading the output form the modem and display them in a human readable form. You will get experience of interfacing with modem hardware in languages like C or C#, retrieving and storing information in database, organizing and display information in human readable format. This will ultimately a software package that potentially involves multiple programming languages and that juggles multiple functionalities for one end purpose.

**Balloon Mounting Supervisor: Aiden**

Some redesign is necessary to modify BLUEsat from a rocket launch to a stratospheric balloon launch. In order to suspend the satellite from the balloon, we need to create four mounting points on two of the sides of satellite.

This is a two part process. First we need to design the mounting points, source the lugs for the connection, and alter the drawings on the BLUEsat SVN. Then the cover plates need to be cut and said mounting points need to be drilled.