The goal of this project is to write a program that can predict the amount of power generated by the solar cells on the plane during flight throughout the day. In the end this program will be integrated in to the unmanned aerial vehicle (UAV) autopilot and will utilize pre-planned flight path, location, time, weather, and the plane model information to determine how much solar energy flux it will be exposed to. The program will be modularized, so it can be easily be integrated into the existing autopilot framework. My work will help increase the total energy captured by the solar panels, allowing the aircraft stay up for an extended period of time.

2) What do you hope to learn and achieve by the end of the semester?

ROS, Programming in C++, Aircraft control, Numerical evaluation of vector calculus