

PURE Research Plan Form

Mentee Information

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Fall 2018 Research Plan

1.) Write a brief outline of your research plan:

This semester I will be working on designing a circuit board to control energy storage and output to the system of a solar powered autonomous unmanned aerial vehicle (UAV). The circuit board that currently runs the UAV is outdated and runs with a less efficient battery than is currently available. My task is to redesign the circuit using EagleCad to work with a newer more energy dense battery.

First, I will study the old design. After I fully understand the old design, I will evaluate what changes and improvements are needed for the new system. Then I will design the new circuit board and test it. In addition, I will also make sure to get feedback from my mentor and others on the new design and then make edits to it as needed. After going through the process of designing, testing, editing and redesigning a few times, hopefully I will come to a sufficient design.

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

By the end of this semester I want to have improved my technical skills in circuit designing as well as my project management skills in being able to initiate a project, improve on it, and fully implement it. In class, I have been studying circuits and how they work but have never had the opportunity to design a circuit myself for a practical purpose. This research experience gives me the opportunity to apply my learning to a hands-on project, which will give me valuable skills and experiences that I will need in the future after my undergraduate career.

Mentee Signature:  Date: 10/3/18

Mentor Signature:  Date: 10/3/18