

## EE/ CprE 491 – ssddec18-19 Weekly Report

4/3/18 – 4/7/18

Group number: 19

Project Title: **Design and Implementation of a small scale standalone Hybrid Solar PV and Wind Energy Generation System**

### Client & Advisor:

Venkataramana Ajjarapu

### Team Members/Role:

Christopher Goodrich: Reasearch Engineer

Taylor Mullen: Testing Engineer

Kenny Nguyen: Testing Engineer

Damon Stubbs: Research Engineer

Andrew Wassenaar: Team Leader

### Past Week Accomplishments:

- Continued to develop on design ideas to add to the system to improve stability, and to increase the functionality of the lab.
- Developed more ideas on how we could place the solar panels and the benefit of adding new.

### Issues:

- The circuit was still having issues. Our irradiance and temperature sensors were giving poor readings.
- We were struggling to find a load to work for the lab.
- Found many visible shorts and exposed high voltage wires and connectors in the circuit.
- Discovered that our voltage meter and current meter are giving faulty measurements.

### Individual Contributions:

Name	Individual Contribution	Hours this Week	Cumulative Hours
Christopher Goodrich	I went through every element of the circuit. Tracked every wire through the circuit, verified the previous year's final schematics, and had ETG look through the circuit. Had a walk-	6	42

	through meeting with the professor, showing him the problems with the circuit.		
Taylor Mullen	Continue to work on brainstorming DC load ideas as well as look through previous team setup and compare it to the current setup within the lab	4	30
Kenny Nguyen	Went through lab document and Arduino code to further understand how prior group set up components and how they are read. Tested values for solar power and MPPT and verify if they match the display. Continue to brainstorm idea about DC load.	5	33
Damon Stubbs	Reviewed Arduino code and circuit elements. Revised lab documents.	4.5	31.5
Andrew Wassenaar	Worked with Professor Ajarapu, and his assistant Pranav to establish what needs to be done for the lab to be in pseudo-working order for the coming lab. Discovered that the simulation wasn't giving accurate values for solar output, and established that a temporary DC load was the only necessary component for the lab to function.	6	39.5

### Plans for coming Week:

- Finish testing running through Lan manual and getting values for each experiment for an answer key to use for upcoming lab
- Finish revising idea of resistor bank/house
- Finding overall cost of each resistor