Sustainable Renewable Energy ELPT 1311 Final Project

Perform the following applying the critical analysis skills and programming techniques acquired in COSC2315.

Program objectives: Applying programming techniques to authentic problems, develop a system to monitor the solar panels for cleanliness, position, temperature.

Individual Assessment

Using thermal sensor and a photo resistor in conjunction with a microprocessor, read the temperature of a solar panels and store the data in an array. The data will be used to call a function to make automated adjustment to the solar panel through the use of mechanization.

Student Deliverables

You will be required individually to wire a mini-solar panel in class to demonstrate competency (15%). As a group you will develop a schematic and wiring diagram (50%) and implement the design on the solar panel array (25%).

Demonstrate your understanding of the fundamentals of programming and electricity by taking the online quiz (10%). Sample questions below.

- What is a variable resistor? Which are the best for the current application?
- What components could you use to regulate a larger flow of current and voltage? Which is best for the current application.
- What gauge wire is required and why?
- What are three different ways of powering the system with renewable   energy? Which one do you think is the best choice and why?
- What do you think are some of the advantages of using renewable energy in portable electrical applications?