AME40453 – Automation and Controls Lab
Final Project Proposal

You will spend the remainder of the semester working on an independent design project. The project must use *at least* one actuator and one sensor, with the sensor providing information to control the actuator.

Suggested projects include:

- Cart and inverted pendulum
- Inverted pendulum balanced with a fly-wheel
- Network of coupled tanks
- Solar panel that tracks the sun
- Temperature controller for coupled thermal masses
- System to automatically sort objects (i.e. colored blocks) on a conveyor belt
- System to sense soil moisture and automatically water plants
- System to automatically feed pets
- Repeat any of the lab exercises using a programmable logic controller (PLC)
- Internet of Things (IoT) – Add WiFi remote monitoring to any of the lab exercises

Each group will be given a budget of ~$1000.

Email your typed proposal to Prof. Rumbach for review. Write a paragraph or two describing your proposed design. Include a rough bullet-point list of some of the more expensive items you will need to purchase.