**EAS 199A: Midterm Topics**

Refer to the learning objects for specific expectations.

Midterm topics and questions

1. Basic electricity

• Atomic mass

• Definitions of charge (Coulomb), current, voltage,

2. DC circuits

• Ohm's law

• Resistors in series and parallel

• Voltage divider

• Power dissipation in resistive elements

• Kirchoff's voltage and current law

• Building circuits on a breadboard

3. Arduino programming

• Structure: setup() and loop()

• Variables: int, long, float

• "if" constructs

• loops

• analog input

• digital output

• PWM output

4. Implementation: DC circuit + Arduino

• LED circuits

• photoresistor circuits

• potentiometer and voltage divider