Over the course of a single semester, I have studied and practiced:
- Programming in C++,
  - IDE (interactive development environments) such as Arduino and Processing
- The functionality and definitions of electrical components:
  - Capacitors - smooths fluctuations in voltage
  - DC Motor- converts electrical energy into mechanical energy
  - Diode- ensures that energy flows in one direction, polarized (+cathode to ground, -anode to power)
  - Gels- filters out wavelengths of light
  - H-bridge- A circuit which allows you to control the polarity of the voltage applied to a load, usually a motor
  - Jumper wires- wire used to connect components to each other
  - Light Emitting Diode (LED)- type of diode that illuminates when electricity passes through it
  - Liquid Crystal Display (LCD)- a type of alphanumeric or graphic display based on liquid crystals
  - Male header pins- metal pins that fit into female sockets, like those on a breadboard
  - Optocoupler- allows you to connect two circuits that do not share a common power supply
  - Piezo- an electrical component that can be used to detect vibrations and create noises
  - Photoresistor (photocell, light-dependent resistor)- a variable that changes its resistance based on the amount of light that falls on its face
  - Potentiometer- a variable resistor with three pins, two connected to the ends of a fixed resistor, the middle (wiper) moves across the resistor and divides it into two halves
  - Pushbuttons- momentary switches that close a circuit when pressed
  - Resistors- resist the flow of electrical energy in a circuit, changing the voltage and current as a result
  - Servo motor- a type of geared motor that can only rotate 180 degrees
  - Temperature sensor- changes its voltage output depending on the temperature of the component
  - Tilt sensor- a type of switch that will open or close depending on its orientation
  - Transistor- a three legged device that can operate as an electronic switch
  - USB cable- this allows you to connect your arduino to your personal computer for programming (It also provides power to the Arduino for most of the projects in the kit)
- Basic energy practices/equations (Ohm's Law, Induction, Pulse Width Modulation, etc.)
- Circuitry and applied computer science

As a result of this independent study on Arduino and electrical components, I've furthered my knowledge of computer science, programming, and electronic devices. I have also successfully broadened my technological understanding and abilities on the subject. Most importantly, I have nurtured my passion for technology in an educational and meaningful way.