**Lesson Plan - SPH3U**  
**Unit – Electricity and Magnetism**  
**Topic – Electric Current and Electric Potential**  
**Day #2**

### Curriculum Expectation(s) and Learning Goal(s) for the Lesson

**a) Expectations:** *(List 1-3 specific expectations from the Ontario Curriculum. Be realistic about how much you can accomplish in one lesson.)*

- use appropriate terminology related to electricity and magnetism, including, but not limited to: direct current, alternating current, conventional current, electron flow, electrical potential difference, electrical resistance, power, energy, step-up transformer, and step-down transformer
- distinguish between alternating current (AC) and direct current, and explain why alternating current is presently used in the transmission of electrical energy
- distinguish between conventional current and electron flow in relation to the left- and right-hand rules

**b) Learning Goal(s):** *(In your own words, what do you want the students to have learned by the end of the lesson? How will you know what they have learned the information?)*

Students will:
- describe conventional/electrical current
- differentiate direct and alternating current, describing properties of both
- describe and be able to use an ammeter and voltmeter appropriately

### Learning Environment and Materials
*(Describe the set up of the classroom, safety considerations, individual and/or group work considerations, facilitating smooth and safe transitions)*

Desks are set up in columns and in each column has 2 desks side by side. At the front there is a projector with white board, SMART board on the side of the class. Lab desks surround the columns of desks. J.B. is visually impaired and is seated closer to the front and there is a seating plan to enforce this and others that do not focus well with specific individuals. The seating plan is mostly alphabetical.

Materials: simple circuit set up (battery, light bulb, wires), an ammeter, and a voltmeter.

### Overview of the Lesson
*(Write the information that you will provide to the students as the intro to the lesson. This may be written on chart paper, white/blackboard, Smart board. This information will inform the students/EAs about what to expect during the lesson.)*

**Intro:**
- Take up homework questions from previous day (student led)
- What is electricity? – introduce electric current
- What does it mean to “use electricity”? – introduce electric potential difference

**Body:**
- Lecture/discussion style
  - Conventional current (charge moves form positive terminal to negative terminal) – Ben Franklin story
  - Electron Flow (charged electrons move from negative terminal to positive terminal)
  - Direct Current
  - Alternating Current
  - Electric Potential Difference (voltage)

**Consolidation:**
- Ammeters + demonstration (remind series vs. parallel circuits)
- Voltmeter (remind series vs. parallel circuits)
- Homework questions (could possibly be completed in remaining class time)

**Assessment/Evaluation:**
- Time will be allotted throughout lecture for students to ask questions
- Issue will be addresses as homework is attempted
- Homework will be formally taken up as a class next day