Lesson Plan - SPH3U  
Unit – Electricity and Magnetism  
Topic – Electric Generators  
Day # 15  

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.)

- explain the operation of an electric motor and a generator, including the roles of their respective components  
- distinguish between alternating current (AC) and direct current, and explain why alternating current is presently used in the transmission of electrical energy  

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:
- Explain the design and operation of the electric generator, including all of its components  
- Use what they have learnt about AC and DC to describe different types of generators  

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.

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)

Body:
- Lecture/discussion style  
  - Electric Generators (the basics) – a magnet, coil of wire…  
  - Relation to electric motors  
  - Necessity for external force (conservation of energy)  
  - AC and DC electric generators

Consolidation:
- Maximizing output  
- Practice Problems and Examples done as a class  
- 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