**Transformed E&M I materials**

**Work and Energy**

**(Griffiths Chapter 2)**

**TIMELINE**

Prof A covers this in lectures 7,8.

Prof B covers this in lecture 7,8.

Transformed course covered in lectures 9.

**LEARNING GOALS**

* Students should be able to calculate the energy stored in a continuous charge distribution when given the appropriate formula
* Students should be able to explain in words what this energy represents.

**CLASS ACTIVITIES**

**Energy and Work**

**Kinesthetic**

**Work to get to your seat**

Big sign on the door as they walked in "Phys 3310 students: You are all positively charged. PICTURE the E field as you enter. What EXTERNAL WORK is needed to get you to your seat?"

**Discussion**

**Square of Electricity**

The relationships between U, V, E and F are elucidated by putting them in a square. Started class with a square on the board, E upper left, F lower left, V upper right (and a blank which became PE lower right later on), and talked about how "E is to F as V is to PE" and "E is to V as F is to PE", and so on. (Basically, connecting back to 2210 and 1110 ideas). See “Electric Field Map” and “Square of Electricity” in “Activity Resources” folder.