ECE 3600 Exam 1 Study Guide

The 1st Exam will be on Tuesday 10/5/10.

The first part will be a **closed book, no calculator** questions, ~ '5 - 30 points

The second part will be a **open book, open notes, with calculator** problems.

The exam will cover	Possible questions
1. HW 1 Energy sources, plant efficiencies	All
2. HW 2 AC steady-state review, used extensively throughout class	
3. HW 3 RMS & Single-phase AC power. P Q $\mathbf{S}$ $\lvert\mathbf{S}\rvert$ pf correction of pf	Basic relationships and units What is "good"
4. HW 4&5 3-phase AC power. $\mathbf{V_L}$ $\mathbf{V_{LL}}$ $\mathbf{V_{LN}}$ $\mathbf{I_L}$ $\mathbf{I_{LL}}$ $\mathbf{I_Y}$ $\mathbf{S_{3\phi}}$ $\mathbf{S_{1\phi}}$ $\mathbf{Z_Y} = \frac{\mathbf{Z_\Delta}}{3}$ $\mathbf{Z_\Delta} = 3\cdot\mathbf{Z_y}$ pf correction of pf	Basic magnitude and phase relationships
5. HW 6 Magnetic circuits $B = \mu \cdot H$ $H = \frac{N \cdot i}{l_m}$	Flux density, Field intensity, Permeability, B-H curve.
7. HW 7 - 8 Transformers Calculations Impedance transformation OC & SC Tests --> model Calculations using the model	losses, ideal/non construction, ratings, magnetization reactance, core losses, winding losses, leakage reactance.
η & VR	What is "good" expressions for η
Special Sensing Transformers	Connection requirements
8. Homeworks 1 - 9	
9. Labs 1 - 2, (OC SC tests & calculations)	Electrocution Safety. Deadly current, body resistance, etc.
10. Field trip to Gadsby power plant	