

## ECE 3600 Exam 2 Study Guide

The 2<sup>nd</sup> Exam will be on Tuesday 11/17/09.

The first part will be a **closed book, no calculator** questions, ~ 25 - 35 points

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

### The exam will cover

#### 1. Auto-transformers

Calculations

### Possible questions

Connections

Power ratings

#### 2. Per-Unit analysis

Base Values       $S_{\text{base}}$        $V_{\text{base}}$        $I_{\text{base}}$        $Z_{\text{base}}$

Per-phase

Why?

Bases selections, why  
and when do they change

Why?

#### 3. One-Line Diagrams and variations

Base transformation

Calculations

Why?

common symbols

#### 4. Synchronous generators and motors

Know the phasor diagram! Problems like Hw 12 & 14

losses, construction,  
limits, operation

#### 5. 3-phase induction motors excluding tests

Know how to work with the model. Problems like Hw 15 - 17 p.2

operation

slip

#### 6. Homeworks 9 - 17 p.2

#### 7. Labs 2 - 3, esp 3

#### 8. I'll look through my notes and find a question or two

Field trip to Rocky  
Mountain Power

#### 9. "

Kent Udell's lecture  
about sustainable  
energy