

## ECE 3600 Exam 2 Study Guide

The 2<sup>nd</sup> Exam will be on Thursday 11/8/12.

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. Non-ideal transformer model

Calculations    %VR     $\eta$

#### 2. Auto-transformers

Calculations

#### 3. 3-phase transformers

#### 4. One-Line Diagrams, variations and Per-Unit analysis

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

Base transformation

Calculations

Per-phase

#### 5. Synchronous generators and motors

Know the phasor diagram! Problems like Hw SG1 & SG2

#### 6. 3-phase induction motors (not single phase)

Know how to work with the model.

#### 7. Homeworks 9 - Ind3 p.2

#### 8. Labs 1 - 2

#### 9. Field trip to Rocky Mountain Power Dispatch

### Possible questions

%VR     $\eta$

Connections

Power ratings

Y or  $\Delta$

Common symbols, why PU

Bases selections, why  
and when do they change

Why?

Why OK?

losses, construction,  
limits, operation

operation

slip

Cores, B-H

Voltage - current relationships

Transformer modeling

I may look through  
my notes and find a  
question or two