

## ECE 3600 Exam 2 Study Guide

The 2<sup>nd</sup> Exam will be on Thursday 11/9/17

Exam is **closed book**, except for the note sheets handed out in class for exam 1 and exam 2. You may add to these sheets. The first part will be questions, ~ 25 - 35 points. The second part will be problems.

### The exam will cover

### Possible questions

1. Non-ideal transformer model	%VR $\eta$	%VR $\eta$
2. 3-phase transformers		Y or $\Delta$
3. Auto-transformers		Wiring New rating
4. Synchronous generators and motors Know the phasor diagram! Problems like Hw SG1 & SG2		losses, construction, limits, operation poles - speed
5. 3-phase induction motors (not single phase) Know how to work with the model.  Powers $P_{AG}$ $P_{conv}$ $P_{out}$ etc. $\eta$  Torque & speeds  Types & effect of $R_2$  No load, Locked rotor, DC tests to find model		Operation Slip Poles - speed Questions from homeworks Typ torque-speed curves  What test gives what model part
6. Homeworks 9 - Ind2		
7. Labs 1 - 3		Transformer modeling Bringing a generator on line

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### **Terminal substation field trip 4800 West 700 South**

Monday lab, 10/23 2:40 pm

Friday lab, 11/3, 2:40 pm

We will gather at the front gate. If you have steel-toed shoes, wear them. They will be much more comfortable than the slip-ons that RMP will provide. Likewise for a hardhat and/or safety glasses. Dress for an outdoors, industrial location-- no shorts.

If you have steel-toed shoes, wear them. They will be much more comfortable than the slip-ons that RMP will provide and they may run short, especially on sizes. Likewise for an FR (Fire Resistant) shirt, sheatshirt, jacket, or coveralls. You may also want to bring your own hardhat and/or safety glasses.

CHECK YOUR E-MAIL just before going for possible changes. If something comes up and the field trip needs to be postponed, go to lab instead.

### **How to get to Terminal substation (located at 4800 West, 700 South)**

One way: Take I-80 westbound to Redwood Road; Redwood Road southbound to 500 (5th ) south; 500 south westbound will jog over and become 700 south and lead you right past Terminal substation, which will be to your right at 4800 west, just after crossing some railroad tracks.

Another way: Take I-80 westbound to 5600 west; 5600 west southbound to 700 (7th ) south; 700 south eastbound will and lead you right past Terminal substation, which will be to your left at 4800 west.