

## ECE 3600 Exam 3 Study Guide

The 3<sup>rd</sup> Exam will be on ~~Friday, 4/4/25 3:00 - 4:20+~~ OR Monday, 4/7 2:30 - 4:20+

Exam is **closed book**, except for the note sheets handed out in class for exam 1, 2 and exam 3. You may add to these sheets. The first part will be questions, ~ 15 - 25 points. The second part will be problems.

### The exam will cover

#### 1. **Single phase induction motors**

Phase shift calculations

#### 2. **DC motors**

Know the model!

Powers  $P_{\text{conv}}$   $P_{\text{out}}$  etc.  $\eta$

Torques & speeds & speed control

Torque / speed curves

Series-wound & universal motors

#### 3. **Motor loads**

Types

Torque / speed curves

#### 4. **HW TL1 & 2, Transmission Lines**

Short, **Med**, Long  $Z_C$

Series impedance  $Z_{\text{series}}$

Shunt admittance &  $\frac{Y_{\text{shunt}}}{2}$

Shunt impedance &  $2 \cdot Z_{\text{shunt}}$

#### 5. Homeworks Ind2 - TL2

#### 6. Lab 3

### Possible questions

Operation

Types

Single phase starting

Typ torque-speed curves

Commutator purpose and operation

Basic relationships

DC motor characteristics

PWM

Basic relationships

Common line voltages

Short, Med, Long mi, km

What is & why use bundling

Bringing a generator on line

Download old exams from HW page on class web site. Also look at Exam 2s and Finals and pick out problems that cover the subjects above.