

ECE 3600 Exam 2 Study Guide

The 2nd Exam will be on Wednesday 3/5/25 In regular classroom (most likely) OR WEB _____
from 3:00 - 4:20+

The first part may be a **closed everything, no calculator** questions, ~ 15 - 25 points. Rest of 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 exam will cover

1. Non-ideal transformers %VR η
OC and SC tests
esp. anything not covered in Exam 1

2. Auto-transformers

3. 3-phase transformers

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

Base Values S_{base} V_{base} I_{base} Z_{base}
Basic per-unit modeling and calculations

5. Motor Basics

6. Synchronous generators and motors

Know the phasor diagram!
Problems like Hw SG1 & SG2

7. 3-phase induction motors

Torque - speed curves

Know the model!
Problems like Hw Ind1 & Ind2

8. Homeworks 8 - Ind2

9. Labs 1 - 2

10. Field Trips

Possible questions

Misc. Information from
transformer notes

In closed-all part of exam
Wiring New rating

Y or Δ

Common symbols, why PU

Bases, why and when do
they change

Why per-unit?

Terms, Stator, Rotor, etc.
Armature, Field, back EMF
Torque, Speed, Power
Friction, Windage
Slip rings, brushes

losses, construction,
limits, operation

poles - speed

Bringing a generator on line

Operation

Slip and frequencies

Poles - speed

Questions from homework Ind1

Typ torque-speed curves

Download old exams from HW page on class web site. Also look at
Exam 3s and Finals and pick out problems that cover the subjects above.