

ECE 330 Power Circuits & Electromechanics, Summer 2019

Instructor:

Section A- MTWRF (10:00-10:50 am) 3081 ECEB: Jonathon Schuh, Office Rm. 4066 ECEB

Teaching Assistants:

Madi Zholbaryssov Office Rm. 4038-30 ECEB

Office Hours:

Schuh (4034 ECEB):

**Monday 11:00am-12:30 pm
Thursday 11:00am-12:30 pm
Or by appointment**

Zholbaryssov (5034 ECEB):

**Monday 3:30pm-5:00 pm
Thursday 3:30pm-5:00 pm
Or by appointment**

Course Text: Power Circuits and Electromechanics (Paperback Version) by M.A. Pai, Stipes Publishing, Champaign

Course Outline

	Hrs
1. Review of phasors, complex power	3
2. Three phase circuits, three phase power, wye-delta conversion	4
3. Magnetic circuits, self and mutual inductance, Maxwell's equations	5
4. Ideal transformers, practical transformers, equivalent circuits	<u>4</u>
5. Electromechanical systems, energy, co-energy, energy cycles, computation of forces	6
6. Dynamic equation, numerical integration of electromechanical systems	4
7. Equilibrium points, linearization, stability	<u>3</u>
8. Synchronous machines	3
9. Induction machines	3
10. Other machines	<u>3</u>
11. Exams and review	4

Exams: Night (7:00-8:30pm); Thursday June 27, and Thursday July 18

Final: 8:00-10:00 am, Friday August 2

Evaluation (Quiz and exam scores will be posted on compass2g):

Two hour exams 25% each

Final exam 35%

In-class quizzes 15%

+/- grading will be adopted for the final grades

Course Website: <http://courses.engr.illinois.edu/ece330>