

EE 306 ELECTROMECHANICAL DEVICES

Fall (051) Tentative Schedule

INSTRUCTOR	OFFICE	PHONE	OFFICE HOURS	E-MAIL
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Textbook: *ELECTROMECHANICAL ENERGY DEVICES*, Yamayee & Bala

# of Lectures	Topics	Text	H.W.
3	Three Phase Balanced Circuits: Review 1- Φ circuits, Phasor diagrams, Delta and Wye connections, Power calculations	3..3,3.4	3.19, 3.22, 3.23, 3.25, 3.26, 3.27
3	Magnetic Circuits: Definition, Magnetization curves, Circuit concepts and circuit solution, Losses in magnetic circuits	4.1-4.4 +notes	4.2, 4.3, 4.4, 4.11 (+ assigned problems)
6	Transformers: Construction, Theory of operation, Equivalent circuit, Regulation and efficiency, Determination of equivalent circuit parameters	4.5.1-4.5.6	4.14, 4.15, 4.19, 4.21, 4.23, 4.24
7	DC Machines: Construction and principle of operation, Types of dc machines, Equivalent circuit, dc generator characteristics, dc motor characteristics	6.1-6.7	6.3, 6.7, 6.18, 6.23, 6.27, 6.32, 6..36
5	Synchronous Machines: Construction and principle of operation, Equivalent circuit, Open and short circuit tests, generator voltage regulation, power output of round rotor machine	7.1,7.2, 7.6	7.3, 7.8, 7.10, 7.12, 7.25, 7.26, 7.33
5	Three Phase Induction Motor: Construction and principle of operation, equivalent circuit, determination of parameters, torque-speed characteristics.	8.1-8.4	8.5, 8.11, 8.17, 8.23, 8.29

Grade Distribution:

Tests	35%
Quizzes	10%
Laboratory	20%
Final Exam	35%

Tests: **October 19** and **December 24**, 2005 (Evenings)

Laboratory Experiments(total 8): Three phase circuits, Magnetic circuits, Equivalent circuit of transformers, Regulation and efficiency of transformer, Characteristics of shunt and compound generators, Torque speed characteristics of shunt and compound motors, Determination of synchronous machine parameters, Torque speed characteristics of three phase induction motors.

Laboratory instructor will assign specific dates for lab experiments.