

# EE 462: ELECTRIC MACHINES

Instructor	Office	Phone	E-mail	Office Hours
Dr. M. A. Abido	14-221	4379	mabido	UT 12:15 – 1:00 PM

## Course Description

Electromechanical energy conversion principles; generalized machine concepts; steady-state operation of DC, synchronous, and induction machines; DC machine dynamics; fractional horse-power AC motors; special types of machines.

## Textbook

M. Sarma, “Electric Machines: Steady state theory and dynamic performance”, PWS Publishing Company, 1996.

## Syllabus Breakdown

1. Electromechanical energy conversion principles (2 weeks)
2. Synchronous machines: Steady state (2 weeks)
3. Synchronous machines: Transient analysis (2 weeks)
4. DC machines: Steady state (2 weeks)
5. DC machines: Dynamic analysis (2 weeks)
6. Polyphase induction machines: Steady state (2 weeks)
7. Polyphase induction machines: Dynamics and control (2 weeks)
8. Fractional horsepower machines(1 week)

## Projects

1. Dynamic Analysis of DC motors
2. Dynamic Analysis of Induction motors

The project outcome must be typed and well presented.

## Homeworks

5-6 homework will be assigned.

## Grading (Tentative)

Homeworks, Quizzes, and Attendance	10%
Projects	10%
Laboratory work	14%
Laboratory final test	6%
Test 1 (March 22, 2005, class time)	15%
Test 2 (May 10, 2005, class time)	15%
Final	30%