

ELEG 3301L ELECTROMECHANICAL ENERGY CONVERSION LAB

Fall Semester, 2000

Catalog Data: ELEG 3301L Electromechanical Energy Conversion Lab. 1 credit hour.
2000-2001 This course is the associated laboratory component of ELEG 3303 - Electromechanical Energy Conversion. The following topics are covered: three-phase measurements, no-load, short-circuit and load tests of transformers, no-load, blocked-rotor and load tests of induction machines, no-load and load characteristics of dc machines and synchronous machines, and speed control of induction machines. Co-requisite: ELEG 3303.

Textbook: Instructor notes.

References: Turan Gönen, Electrical Machines, Power International Press, 1998.

Coordinator: Juan Carlos Balda, Professor of Electrical Engineering

Goals: This course is designed to complement the theoretical concepts covered in ELEG 3303 by performing a series of associated laboratory experiments.

Prerequisites by Topic:

1. Three-phase circuits
2. Transformers
3. Induction machines
4. Synchronous machines
5. DC machines

Laboratory Experiments:

1. DC generators.
2. DC motors.
3. Three-phase measurements.
4. Single-phase transformers: no-load, short-circuit and load tests.
5. Induction motors: no-load, blocked-rotor and load tests.
6. MATLAB/Simulink™ experiment: start up of an induction motor.

Computer Usage:

MATLAB/Simulink™

Estimated Content:

Engineering Science: 1 credit or 100%

Prepared by: _____ Date: _____