

**Course Title: Power and Control Laboratory Work**

**Course Code: PCEG 403**

**Credit Hours: 1**

**Course Description:**

This course intends to reinforce the concepts taught in Control System Design, Power System II and Solid State Drives that have a strong practical applications emphasis, by a series of relevant experiments carried out in the laboratory.

**Course Contents:**

A series of experiments is to be done to reinforce the subject matter taught in 'COEG401: Control System Design', 'EPEG415: Power Systems II', and 'EPEG422: Solid State Drives'. The exact courses covered by laboratory work may vary. Experiments for the following topics, for the three courses, can be conducted:

Power System II

1. Load flow study
2. Fault analysis
3. Transient and steady state analysis

Control System Design

4. Control system design using MATLAB
5. PID controller design

Solid State Drives

6. Drive characteristics using MATLAB
7. V/f control for induction motor
8. V/f control of synchronous motor