

**CLEMSON UNIVERSITY**  
**Electrical and Computer Engineering Department**  
**ECE 360**  
**ELECTRIC POWER ENGINEERING**  
**Spring / 2009**

**Instructor**

Dr. E. B. Makram

Office Location: Rm. 303 Riggs Hall, ph. 656-3378

Office Hours: 10 AM – 12 Noon, TTH or by appointment

Email: makram@clemson.edu

**Class Location**

226 Riggs Hall, 10:10 am – 11 am, MWF

**Text**

Electric Machinery and Power System Fundamentals

Stephen J. Chapman, McGraw-Hill Inc., ISBN 0-07-229135-4

**Attendance**

Attendance is voluntary but strongly encouraged.

Test attendance and final exam are mandatory.

**Homework**

Will be assigned every Wednesday

**Tentative Topic**

Mechanical and Electromagnetic Fundamentals

Three Phase Circuits

Transformers

Synchronous Machines

Induction Motors

DC Motors

Transmission Lines

Power System representation and Equations

Introduction of Power-Flow Studies

**Chapter**

one

two

three

five

seven

eight

nine

ten

eleven

**Tentative Test Schedule**

First Test                      February 13, 2009

Second Test                    March 13, 2009

Third Test                      April 17, 2009

### **Academic Integrity**

The Honor Code for the College of Engineering is in effect for all engineering courses. Clemson University also has a published statement in “Academic Integrity”. Lying, cheating, or stealing detracts from the value of a Clemson degree. Please see your student handbook for more details. Collaborating on homework is allowed provided you do your own work; however, copying homework is not permitted and will result in zero on that homework for everyone involved.

### **Homework**

We will have approximately weekly assignments (every Wednesday) during the course. Homework is turned in at the beginning of the class period at which it is due only. Solutions will be placed in the Black Board (CLE Library).

### **Tests**

Each of the three tests and the final exam will be closed book with formula sheets (one sheet is permitted in each of the three tests and maximum of three sheets in the final exam, handwritten equations and formulas only). All formula sheet(s) will be turned in with each test and the final. Test attendance is mandatory (there will be no make-ups). Two tests only will be considered (lowest grade will be dropped). In the event that a true, documented personal emergency is going to cause an absence from a test, let me know immediately, otherwise a zero will be assigned for the missed test.

### **Percent Grading**

**25%** each test, **20%** homework, **30%** final exam., and some extra points as bonus\*.

\* Bonus includes: Power Seminars, Quizzes, and bonus homework.

### **Final Grades:**

90% and above	A
80% - 89.95%	B
65% - 79.95%	C
50% - 64.95%	D
Below 50%	F

Note: Once I enter the class final grades on-line you can immediately learn your grades using a touch-tone phone (864-656-2255), PC connected to the mainframe computer, or Clemson Web <http://www.clemson.edu/clemweb/>.

## **Syllabus Addendum**

As indicated on p. 33 of the 2007-2008 Clemson University Undergraduate Announcements, "All students will place material in an electronic General Education portfolio to document their work on general education competencies."

ECE 360 is one of the courses that the ECE Department has selected to provide guidance to students in regard to items to include in their e-portfolio. Below is a list of the educational competencies that this course specifically relates to, along with a list of assignments for this course that are recommended for inclusion in your e-portfolio:

### **Competency Class: Mathematical, Scientific and Technologic Literacy**

Competency M1 - Demonstrate mathematics and physics through solving problems in each chapter (1-11) through the course (HW#1 can be included as an example).

Lab reports associated with all machines' characteristics (if you take the power lab with the course) are recommended for inclusion in your e-portfolio.

Competency M4 - Apply information technologies to intellectual and professional development. Your e-portfolio should include the following:

A report in the annual power tour in Santee-Cooper each fall or a summary of power seminars that offers 2-3 times during the semester. The different seminars cover what is new in power industry.

Competency M5 - Understand the role of science and technology in society:

A Summary of the power seminar that has new technology applications and the green power generations are recommended for inclusion in your e-portfolio.

### **Competency Class: Ethical Judgment (E2):**

Demonstrate understanding of common ethical issues:

Students are asked to write a report on ethics in the power industry as an assignment to include it in their e-portfolio.