

**Spring 2006**

EE368, Unique Number 15770, Electric Power Transmission and Distribution  
EE394J-1/ME394J-1, Unique Numbers 16030 and 17775, Power System Engineering I

**Time and Room:** MWF 10-11, ENS115

**Professor:** W. Mack Grady, ENS348, 471-5231, [grady@mail.utexas.edu](mailto:grady@mail.utexas.edu), [www.ece.utexas.edu/~grady](http://www.ece.utexas.edu/~grady)

**Office Hours:** MWF, 11-Noon

**Course Web Page:** [www.ece.utexas.edu/~grady/EE368\\_Spring06](http://www.ece.utexas.edu/~grady/EE368_Spring06)

**Textbook:** J. Glover and M. Sarma, Power System Analysis and Design, 3<sup>rd</sup> Edition, Brooks/Cole, 2002.

**Description:** Analysis of power system transmission and distribution system components; electric and magnetic fields surrounding transmission lines, faults, voltage sags, symmetrical components, lightning, grounding, shock hazards, power system harmonics.

**Prerequisites:** EE438 or EE331 with a grade of at least C.

**Tests and the Final Exam:** Grades for each test and the final exam are typically curved so that each has approximately the same average. If you miss a test, you have the option of 1. a makeup test (if your reasons for missing the test are sufficient), or 2. replacing the missing grade with the average of your other test and the final exam.

If you have any questions about the grading of a test, here is the procedure: write down your concerns on a sheet of paper, staple it to your test, highlight on your test with a colored pen where needed to support your case, and return the stapled pack to Dr. Grady within one week.

**Guest Lecturers:** Several during the semester, by practicing power engineers.

**Attendance:** In some situations, absences can be excused. At the end of the semester, any student who has absences can prepare a written statement (signed hardcopy only) for Dr. Grady, giving dates and circumstances. Staple your statement to your final examination. Your statements will be taken into consideration when the course grades are determined.

<b>Grading Formula:</b>	Two tests, 20% each -----	40%
	(note – one 8.5” x 11” sheet of notes is permitted at each test)	
	Comprehensive final exam (Sat., May 13, 2-5pm) -----	25%
	(note – three 8.5” x 11” sheets of notes are permitted at the final exam)	
	Weekly homework (assigned and due on Fridays) -----	20%
	On-time attendance -----	10%
	Dr. Grady’s discretionary points -----	5%

**Other Info:** It will be appreciated if students are 1. on-time, 2. refrain from eating, drinking, cell phone ringing, talking, and disturbing others, and 3. conduct themselves in a manner that maintains a professional environment in the classroom. Open laptops are not welcome in class unless they are being used for class purposes. The MEC common evaluation form will be used. U. T. provides, upon request, appropriate academic adjustments for qualified students with disabilities. An engineering student must have the Dean’s approval to add or drop a course after the fourth class day of the semester.

**Schedule:**

Week	Reading	Topics
Jan. 18.	Chapter 2	Three-phase circuits and power definitions
Jan. 23.	“	“
Jan. 30.	Chapter 3	Transformers and the per unit system
Feb. 6.	Chapter 4	Transmission line parameters, electric and magnetic fields
Feb. 13.	Chapter 5	Fields, cont. Transmission lines in steady state
Feb. 20.	Chapter 7	Symmetrical faults
Feb. 27.	Test 1 (on Friday)	Test 1 (on Friday, March 3)
Mar. 6.	Chapter 8, 9, Notes	Symmetrical components, unsymmetrical faults, voltage sag propagation, fault location.
Mar. 13.	Spring Break	Spring Break
Mar. 20.	Notes	Power system harmonics
Mar. 27.	Notes	Power system harmonics
Apr. 3.	Chapter 12	Lightning, grounding, and shock hazards
Apr. 10.	Test 2 (on Friday)	Test 2 (on Friday, April 14)
Apr. 17.	Chapter 12	Lightning, grounding, and shock hazards, cont.
Apr. 24.	Notes	Distribution system planning process
May 1.	Notes	HVDC and FACTS