ECE 6633 – Power Distribution Systems

Instructor: Yong Fu

Office: Room 239, Simrall Hall
Phone: (662) 325-3878
Office hours: 3:00-4:00 PM Monday/Wednesday or by appointment.
E-mail: fu@ece.msstate.edu

Prerequisites by Topics:

Vector calculus and matrix operations
Network theorems and methods of solution
Electric and magnetic fields
Electric energy conversion devices

Textbook

J. Glover, M. Sarma and T. Overbye, *Power System Analysis and Design*, Fifth Edition, Cengage Learning, ISBN-13: 978-1-111-42577-7, ISBN-10: 1-111-42577-9, PowerWorld Simulator Software (comes with your textbook)

References

Hadi Saadat, *Power System Analysis*, Second Edition, McGraw Hill, 2002

Honor Code

Mississippi State University has an approved Honor Code that applies to all students. The code is as follows: "*As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do.*" Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information please visit: http://students.msstate.edu/honorcode/

Attendance

1. Class roll will be taken randomly.
2. A student is considered present for class if the student remains in class for the duration of the class.
3. If an absence from class is unavoidable due to some situation beyond a student's control, the student should advise the instructor before a class is missed.
4. Although attendance is not a formal component of the course grade, attendance records will be reported along with course grades.

Homework

1. Homework will be due before the class, unless otherwise specified.
2. No late homework will be accepted.

Exams

1. All exams are closed-book, closed-notes. Only one equation sheet is allowed.
2. Students are expected to be present for all exams. Make-up exams due to an absence will be given only under the following conditions:

The student has informed the instructor of the absence at least 24 hours in advance of missing the exam.

— OR —

The student misses the exam due to some situation beyond the student's control (such as a serious illness, the family emergency, etc.) which is unexpected, unavoidable, and documented. The reason for each absence of this sort will be judged case by case by the instructor and, if it is deemed valid under the above description, a make-up exam will be given.

Grading

Homework:	20%
Midterm Exam 1:	20%
Midterm Exam 2:	20%
Final Exam:	40%

Suppose you score h_i out of H_i points on Homework Assignment *i*, you score e_j out of E_j points on Exam *j*. Your final course score *s* is calculated as

$$s = \left[\frac{\sum_{i=1}^{N_h} h_i}{\sum_{i=1}^{N_h} H_i} \times 0.2 + \frac{e_1}{E_1} \times 0.2 + \frac{e_2}{E_2} \times 0.2 + \frac{e_3}{E_3} \times 0.4 \right] \times 100$$

Your final grade is

A:	100-90
B:	89-80
C:	79-70
D:	69-60
F:	59-0

Topics Covered:

- Review of fundaments in power system analysis
- Brief overview of transformers and per unit system
- Symmetrical faults
- Symmetrical components and sequence networks
- Unsymmetrical faults and analysis techniques
- Transient stability
- System protection
- Advanced topics in electric power industries