Instructor: Dr. Zhixin (Lee) Miao  
ENB 370, 813-974-4237, zmiao@usf.edu

Office Hours: T, Th 10:00 AM ~ 11:00 AM, or by appointment  
TA office hours: Lakshan Piyasinghe (lakshan@mail.usf.edu)  
Office: IDR123, T, Th 11:00 AM~12:25PM  
Hossein Ghassempour (Hossein1@mail.usf.edu)  
Office: ENB322, T, Th 9:30 AM~10:45PM

All students in the class will be divided into two teams. Each team will have a TA. For any course questions, please contact your team TA first.

Course Content: Principles of electromechanical energy conversion and analysis of electromechanical device performance: transformers, magnetic circuits, synchronous machines, induction machines, three-phase circuits, and power systems.

Prerequisite: EGN 3373 Introduction to Electrical Systems, minimum grade ‘B’.

Lecture Schedule: T, Th 12:30PM to 1:45PM, CHE 217


Course Outcomes:
1. Students learn to analyze three phase networks  
2. Students learn to analyze magnetic fields and circuits  
3. Students learn to analyze principles of electromechanical energy conversion  
4. Students learn to analyze performance of transformers  
5. Students learn to analyze performance of synchronous generators  
6. Students learn to analyze performance of induction motors

Grading:  
Homework Assignments and Quizzes 20%  
Midterm Exam 20%  
Labs (PSCAD Projects, Machine labs in ENB 235) 15%
Final Term Project 15%
Final Exam 30%

Late assignments will not be accepted for grading.

Tentative Schedule of Classes:

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<td>Three-phase circuit analysis</td>
<td>Appendix A</td>
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<td>magnetic material and circuits</td>
<td>Chapter 1</td>
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<td>Term Projects and course review</td>
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General Info: The midterm exams and the final exam are closed book and closed notes. One formula sheet (both sides of 8.5” x 11” paper) is allowed for the exams. The formula sheet(s) should be handwritten originals, not photocopied, no solutions of the homework/quiz/exam. The final exam is comprehensive.

If, for some extremely important, verifiable reason, you cannot take the midterm exam at the scheduled time, the instructor must be notified and your next exam score will be counted for the missed exam. Questions concerning a grade given for any assignment/quiz/exam/lab must be presented to the instructor within 5 days after the grade is posted on Blackboard.

Software and Machine Labs: The software, PSCAD/EMTDC (https://pscad.com) will be used in class for homework assignment and software projects. The student version is free. Please download and install PSCAD/EMTDC on your own computer. All students are required to attend the two machine labs in person. The lab schedule will be announced in the 3rd week of the semester.

Academic Integrity: The Students attending USF are awarded degrees in recognition of successful completion of coursework in their chosen fields of study. Each individual is expected to earn his/her degree on the basis of personal effort. Consequently, any form of cheating on examinations or plagiarism on assigned papers or projects constitutes unacceptable deceit and dishonesty. Disruption of the classroom or teaching environment is also unacceptable. These cannot be tolerated in the University community and will be punishable, according to the seriousness of the offense, in conformity with the rules set out in the USF Undergraduate Catalog.