ECE 597D  POWER SYSTEMS  SPRING, 2014

Class Hours: Tu-Th  9:30 AM – 10:45 AM  
Professor:  Dr. Douglas P. Looze  
Office:  KEB 113F  Phone:  (413) 545-0973  email:  looze@ecs.umass.edu  
Office Hours: 2 hours/week, time TBD  

Course URL:  https://moodle.umass.edu/ (login using OIT ID)  
Syllabus is also at http://ece.umass.edu/ece/undergraduate/course-sites  
The moodle page contains all the course material to date, including this syllabus, the problem sets, and the lecture notes.  


Grading:  
•  Class attendance (20%)  
•  Field trip attendance & participation (5%)  
•  Team homework and homework discussions (25%)  
•  Team research & presentation (25%)  
•  Final exam-comprehensive (25%)  

Homework:  
There will be 4–5 assignments that will be due at the beginning of the lecture on the specified date. Each team turns in a single homework solution representing the combined effort of the team members. The team will be assigned a single grade.  

Presentation:  
Teams will select contemporary topics associated with Electrical Power Systems, research these topics and make Power Point Presentations to the class.  
•  Teams make topic proposals due on last class before spring break.  
•  Power point presentations will be done during last week of class.  

Field Trip:  
A field trip to ISO New England, Holyoke MA, will be scheduled during the semester.  

Software:  
Some problems in the homework will require the use of the software package PowerWorld power flow simulator. A free student version can be downloaded at:  
http://www.powerworld.com/gloversarma.asp  

Course Topics  

1)  Mechanical and Electromagnetic Fundamentals (Ch. 1–2)  
2)  Three-Phase Circuits (Ch. 2)  
3)  Transformers (Ch. 3)  
4)  Synchronous Machines (Ch. 3)  
5)  Transmission Lines (Ch. 4–5)  
6)  Power-Flow Studies (Ch. 6)  
7)  Transient Stability Analyses (Ch. 11)  
8)  Faults (Ch. 7–9)