ECE 597D  POWER SYSTEMS  SPRING, 2013

Class Hours:  Tu-Th  11:15 AM – 12:30 PM
Professor:    Dr. Douglas P. Looze
Office:       KEB 113F  Phone:   (413) 545-0973  email:  looze@ecs.umass.edu
Office Hours: M 1:00 – 3:00PM

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.

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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. Teams will take turns in helping the instructor conduct homework
             discussions.

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) Three-Phase Circuits (Ch. 1)
3) Transformers (Ch. 2)
4) Synchronous Machines (Ch. 3)
5) Transmission Lines (Ch. 4–6)
6) Power-Flow Studies (Ch. 7–9)
7) Transient Stability Analyses (Ch. 16)
8) Faults (Ch. 10–12)