UNIVERSITY OF MASSACHUSETTS
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

ECE 597D POWER SYSTEMS SPRING, 2017

Class Hours: Tu-Th 10:00 AM – 11:15 AM
Professor: Dr. Douglas P. Looze
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Office Hours: Wednesday 3 – 5

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.

CENGAGE Learning, 2012. (referred to as GOS)

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 for each homework.

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:

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)