Course Policy and Outline

Course: EE 363 – Power Engineering II
Instructor: Dr. Ankit Singhal, Block II - 135
Office Hours: Thursdays and Fridays 4 – 5 PM
TA Archita Vijayvargia
E-mail & Phone: sankit@iitd.ac.in
Course Webpage: Moodle

Course Content

- Advanced power flow analysis
- State estimation
- Power system security
- Power system control
    a. AGC – frequency control
    b. Voltage control
- Economic dispatch
- Optimal power flow
- Unit Commitment
- Power system restructuring – electricity markets and deregulation
- Modern trends in power grid (smart grid, integration of renewable energy)

Recommended Books (not mandatory to purchase)

- *Power generation operation and control*, by Allen Wood and Bruce Wollenberg.
- *Modern power system analysis*, by D P Kothari and I J Nagrath and R K Saket

Evaluation Policy

- Mid-semester exam – 35%
- End-semester exam – 35%
- Assignments and Quizzes – 20%
- Project – 10%

Attendance Policy

No policy: You are strongly encouraged to attend class, but role will not be called. However, YOU ARE RESPONSIBLE FOR ALL INFORMATION PRESENTED IN-CLASS. The web site and instructor, although available to you, are not responsible for providing you with in-class information if you choose not to attend class.

Course Prerequisite

ELL303, familiarity with power system analysis methods at the level of one of the standard textbooks on this subject, including the ones by Bergen & Vittal, Grainger & Stevenson, Glover & Sarma, Gross, and Elgerd. Familiarity with the following topics is essential: matrix algebra, calculus, Complex numbers, solving nonlinear equations, network analysis theory including electric power flow analysis, and basic optimization concepts.

Audit Policy

Minimum requirement is D grade (30%) and write both exams.