

EE 330A – Power Systems 2017-2018 Semester I

Instructor: Dr. Abheejeet Mohapatra, ACES 105 D, Tel: 7152 Email: abheem@iitk.ac.in

Overview

This course is relevant for undergraduate students of Electrical Engineering (typically in their third year). After completion of this course, a student will be aware of the various aspects involved in modeling and operation of power systems.

Course Content

- Introduction to power system structure and types of components
- Basic circuit principles - three phase circuits, power calculation
- Synchronous generator
- Transformers
- Transmission line parameter calculation
- Transmission line model
- Power Flow analysis
- Fault analysis
- Stability analysis

Reference Books:

1. Power System Analysis, John J. Grainger and William D. Stevenson, Jr., Tata McGraw-Hill, 2003.
2. Power System Analysis, Hadi Saadat, Tata McGraw-Hill, 2002.
3. Power System Analysis and Design, J. Duncan Glover, M. Sarma and Thomas J. Overbye, Thomson, 2008.
4. Electrical Power System Essentials, Pieter Schavemaker and Lou van der Sluis, Wiley, Second edition, 2017.

Tutors:

Section	Tutorial (Thursday, 1100-1200hrs)	
	Tutor	Tut. Room
1	Prof. Abheejeet Mohapatra (abheem)	T209
2	Prof. Nandini Gupta (ngupta)	T210
3	Prof. Saikat Chakrabarti (saikatc)	T211
4	Rakesh Kumar Panda (rpanda)	T212

Distribution of Marks:

Quiz	15%
Mid. Sem Exam	40%
End Sem Exam	45%
Total	100%

Lectures:

Week	Monday	Tue/ Thursday	Friday	Saturday
1	July 31	August 1	August 4	
2	August 7	August 10	August 11	
3	August 14	August 17	August 18	August 19
4	August 21	August 24	August 25	August 26
5	August 28	August 31	September 1	
6	September 4	September 7	September 8	
7	September 11	September 14	September 15	
8	Mid Semester Examination			
9	Mid Semester Recess			
10	-	October 5	October 6	
11	October 9	October 12	October 13	
12	October 16	-	October 20	
13	October 23	October 26	-	
14	October 30	November 2	November 3	
15	November 6	November 9	November 10	November 11
16	November 13	-	-	
17	End Semester Examination			
Total	13	12	12	3

Lecture Timing:

Monday 0800-0900 hours, L1

Thursday 1100-1200 hours, L1

Friday 0800-0900 hours, L1

(Buffer lectures on Saturday 1000-1100 hours, L1)

Tutorials:

Session	Date	Session	Date
1	August 08	7	October 10
2	August 22	8	October 17
3	August 29	9	October 24
4	September 05	10	October 31
5	September 12	11	November 07
6	October 03		

Tutorial Timing:

Tuesday 0900-1000 hours, Venue is given below

Instructions:

1. There will be a total of 37 lectures and 3 buffer lectures (if required on Saturdays).
2. Attendance during the lectures shall be monitored through the biometric system.
3. A minimum of 75% attendance in lectures and tutorials is required for appearing in mid semester and end semester examinations.
4. Make-up for mid semester and end semester exams may be taken on production of medical certificate and no make-ups are allowed for the quizzes.
5. The end semester examination shall also include questions from content of the course which has been taught before the mid semester examination.
6. Most of the tutorial sessions shall end with 10-15 minutes session of quiz.

Teaching Assistants:

Tutor/ Instructor	Teaching Assistants	Sections
Prof. Abheejeet Mohapatra (abheem)	Avinash Kumar (kumarav)	1
Prof. Nandini Gupta (ngupta)	Vineeth V (vineeth)	2
Prof. Saikat Chakrabarti (saikatc)	Bhavna Rathore (bhavnar)	3
Rakesh Kumar Panda (rpanda)	Anamika Tiwari (anamtiw)	4