

Syllabus

Electric Power System Engineering

Course Name	Course type (credit/hours)		전선(3/3)		Course code	
	Target students Division/major/grade		에너지시스템 학과/6학년		Opening semester	2017년 1학기
	Class time and classroom		월5.5(전109) 월6.5(전109) 월7.5(전109)(전109)			
Reference to this course	Related basic courses		Electromagnetics, Circuit Analysis			
	Recommended concurrent courses		Energy Process Engineering			
	Related advanced courses					
Instructor	Name (title/division)		정재성 (조교수/에너지시스템 학과)			
	Office Room Number	에너지센터 210호	Office phone Number	2695	e-mail	jjung@ajou.ac.kr
	Office hours			Homepage address		
Teaching Assistant	Name (title/division)					
	Office Room Number		Office phone Number		e-mail	

1. Introduction

Electric power system is the engineering study of transferring the power from power plant to end-user through generation, transmission, distribution, and utilization of electric power. The course is dealing with modern power system operational and control problems and their solution techniques. The topics covered include: transmission line modeling, transformer modeling, generator modeling, admittance model and network calculation, power flow, and etc.

2. Course Objectives

3. Class types and activities

Lecture (ppt) and discussion

4. Teaching Method

Lecture (ppt) and discussion

5. Knowledge and ability required for taking this course

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6. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance		20	
midterm exam		30	
final exam		50	
quiz			
presentation			
discussion			
homework			
etc			

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7. Textbooks

Main/Sub	Title	Writer	Publisher	Publication year
주교재	Power Systems Analysis	John Grainger	McGraw-Hill Education	2015
부교재	Power Systems Analysis	Arthur R. Bergen	Pearson	1999

8. Lecture Schedule

Week	Lecture contents	Lesson type	Remark
1	Introduction of power system engineering		
2	The basic theory of power system		
3	Series Impedance of Transmission Lines		
4	Capacitance of Transmission Lines		
5	Transformer modeling and the per-unit system		
6	Current and Voltage Relations on a Transmission Line		
7	The Admittance Model and Network Calculation		
8	Term Project		
9	The Admittance Model and Network Calculation		
10	Power Flow Solution		
11	Power Flow Solution		
12	Power Flow Solution		
13	Power Flow Solution		
14	Power Flow Solution		
15	Power Flow Solution		
16	Final Exam		

9. Others

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