EE 441   Power System II

COURSE INFORMATION

Prerequisites	Academic Year &Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Lab.	
EE 342	4	7	2	2		3

COURSE AIM

To present methods of power system analysis.

To study different types of faults in power system.

To investigate the stability performance under faulty conditions.

COURSE WEEKLY CONTENTS

1   Transient in R-L series circuits
2   Internal voltage of loaded machines under fault conditions
3   Fault calculation using Zbus
4   The selection of circuit breakers
5   The symmetrical components of unsymmetrical phasors
6   Power in terms of symmetrical components
7   Sequence circuit of ΔY impedance synchronous machine   +   Midterm Exam
     and 3 phase transformers
8   Unsymmetrical faults on power system, single line to ground faults.
9   Line to line faults and double line to ground faults.
10   Power system stability
11   Further consideration of the swing equation
12   The power angle equation and synchronizing power correction
13   Equal-area criterion of stability
14   Further applications of equal-area criterion
15   Step-by-step solution of the swing curve

STUDENT GRADING & ASSESSMENT

Weeks	Exams		Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20	Midterm	←	1 0	M A R K S		→	30
			To be freely distributed among possible assessments					
8 to 12	←			2 0	M A R K S		→	20
13 to 15	←			1 0	M A R K S		→	10
16 or 17	40	Final						40
Total	Exams		Assign.	Quizzes	Reports	Present.	Lab.	100

REFERENCES

Textbook	Hadi Saadat, "Power System Analysis", McGraw- Hill, 2002
Other	Gule & W. Paterson, "Electrical Power Systems", Pergman press, London.
	J. Glover & M.Sarma "Power system analysis and design", PWS publishers, Bosto.
	Eelgrass, "Electrical energy systems theory", McGraw Hill, 1983.