

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

Department of Electrical and Electronics Engineering

COURSE OUTLINE			
Course Title	Power Systems Laboratory – Section: B		
Course Code	EELR17	No. of Credits	2
Department	EEE	Faculty	Ms.S.Malarvili
Pre-requisites Course Code	EEPC25		
Course Coordinator(s) (if, applicable)	-----		
Other Course Teacher(s)/Tutor(s) E-mail	-----	Telephone No.	-----
Course Type	<input checked="" type="checkbox"/> Core course		<input type="checkbox"/> Elective course
COURSE OVERVIEW			
Programming and simulation of Power Systems.			
COURSE OBJECTIVES			
Acquire skills of using computer packages MATLAB coding and SIMULINK in power system studies.			
COURSE OUTCOMES (CO)			
Course Outcomes	Aligned Programme Outcomes (PO)		
1. Develop computer programs for power system studies.	PO1, PO2, PO3		
2. Develop computer programs to carry out load flow study of a practical system.	PO1, PO2, PO3		
3. Develop computer programs to simulate and analyze fault	PO1, PO2, PO3		
4. Prepare the technical report and provide solutions to real time problems.	PO2		

COURSE TEACHING AND LEARNING ACTIVITIES				
S.No.	Week	Topic	Mode of Delivery	
1	Week 1 (Jul 18 th & 21 st)	Real and Reactive Power Computation	MATLAB Simulation	
2	Week 2 (Jul 24 th & 28 th)	Transmission Line Parameter Calculation	MATLAB Simulation	
3	Week 3 (Aug 7 th & 11 th)	Transmission Line Parameter Calculation	MATLAB Simulation	
4	Week 4 (Aug 14 th & 18 th)	Transmission Line Parameter Calculation & Y Bus Formulation	MATLAB Simulation	
5	Week 5 (Aug 21 st)	Y Bus Formulation	MATLAB Simulation	
6	Week 6 (Aug 28 th & Sep 1 st)	Z Bus Formulation	MATLAB Simulation	
7	Week 7 (Sep 4 th & Sep 8 th)	Load flow 1- Gauss-Seidel	MATLAB Simulation	
8	Week 8 (Sep 11 th & Sep 15 th)	Load flow 2- Newton-Raphson	MATLAB Simulation	
9	Week 9 (Sep 18 th)	Symmetrical Fault Analysis	MATLAB Simulation	
10	Week 10 (Sep 25 th)	Unsymmetrical Fault Analysis	MATLAB Simulation	
11	Week 11 (Oct 6 th)	Symmetrical Fault Analysis	MATLAB Simulation	
12	Week 12 (Oct 9 th & Oct 13 th)	Unsymmetrical Fault Analysis	MATLAB Simulation	
13	Week 13 (Oct 20 th)	Unsymmetrical Fault Analysis	MATLAB Simulation	
COURSE ASSESSMENT METHODS				
S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Design Calculations, Programming, Viva, and Result. Record	During regular lab sessions		40 10
2	Mini Project	Oct 16 th & Oct 27 th 2017		30
3	Comprehensive Questions	Oct 23 rd 2017	30 Minutes	20

ESSENTIAL READINGS : Textbooks, reference books Website addresses, journals, etc

1. Turan Gonen, 'Electric Power Distribution System Engineering', CRC Press INC, 2nd Edition 2007.
2. 'Electrical Transmission and Distribution Reference Book', Westinghouse Electric Corporation, 4th Edition 2007.
3. J. Duncan Glover, M.S.Sarma & Thomas J. Overbye, 'Power System Analysis and Design', Cengage Learning, 5th Edition, 2011.
4. J.C.Das, 'Power System Analysis, 'Short-Circuit Load Flow and Harmonics', Marcel Dekker Inc., 1st Edition, 2002.
5. Arthur R. Bergen, 'Power System Analysis', Pearson Education India, 2nd Edition, 2009.
6. Gupta B.R., 'Power system Analysis & Design', S.Chand and Company Ltd., 5th Edition, 2001.

COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also)

1. Student's feedback through Class – Committee Meetings
2. Anonymous feedback from students using questionnaire

COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)

ATTENDANCE

1. Every student should maintain 75% attendance, if not they have to redo the course.
2. Students who have missed the regular lab class should get the prior permission for attending compensation lab class

ACADEMIC HONESTY & PLAGIARISM

1. All the students are expected to be genuine during the course work. Taking information by copying another student's paper or using study material of any form during any assessments is considered dishonest.
2. Any evidence of such academic dishonesty will result in loss of marks in that assessment. Additionally names of such students will be reported to Class Committee Chairperson and HOD for necessary actions.
3. Students who honestly produce ORIGINAL and OUTSTANDING work will be rewarded

ADDITIONAL COURSE INFORMATION

1. The Course Coordinator is available for consultation during the time intimated to the students then and there.
2. All correspondence will be sent to webmail id of the students alone. Hence all students are advised to check their webmail regularly.
3. Criteria for passing course is based as per the institution norms.

FOR SENATE'S CONSIDERATION

Course Faculty

8/1/17

CC-Chairperson

27/7/2017

HOD

27/07/2017