DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE OUTLINE TEMPLATE			
Course Title	**POWER SYSTEM ANALYSIS**		
Course Code	**EEPC25**	**No. of Credits**	**04**
Department	**EEE (A Section)**	**Faculty**	**M Jaya Bharata Reddy**
Pre-requisites Course Code	**MAIR42, EEPC16**		
Course Coordinator(s) (if, applicable)	**---**		
Other Course Teacher(s)/Tutor(s) E-mail	**---**	**Telephone No.**	**0431-2503270**
Course Type	✓ **Core course**	☐ **Elective course**	

COURSE OVERVIEW

Students are exposed to model the various power system components and analyze the performance of the power system under different power system disturbances.

COURSE OBJECTIVES

To model various power system components and carry out load flow, short circuit and stability studies.

COURSE OUTCOMES (CO)

Course Outcomes	**Aligned Programme Outcomes (PO)**
Upon completion of the course, the students will be able to 1. Carry out load flow study of a practical system. 2. Simulate and analyze fault. 3. Study the stability of power systems.	

CO no.	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PO 13	PO 14
1	H	H	NA	NA	H	NA	M	H	H	H	M	H	M	M
2	H	H	NA	NA	H	NA	M	H	H	H	M	H	M	M
3	H	H	NA	NA	H	NA	M	H	H	H	M	H	M	M

COURSE TEACHING AND LEARNING ACTIVITIES			
S.No.	**Week**	**Topic**	**Mode of Delivery**
1	Weeks 1 to 3 (10 contact hours, including four contact hours for problem solving)	Modelling of power system components.	Lecture/Tutorial
2		Numerical examples/Problem solving	Group work (exercise)
3	Weeks 4 to 6 (10 contact hours, including four contact hours for problem solving)	Power flow analysis methods	Lecture/Tutorial
4		Numerical examples/Problem solving	Group work (exercise)
5	Weeks 7 to 9 (10 contact hours, including four contact hours for problem solving)	Fault studies (Symmetrical fault analysis)	Lecture/Tutorial
6		Numerical examples/Problem solving	Group work (exercise)
7	Weeks 10 to 12 (10 contact hours, including four contact hours for problem solving)	Fault analysis (Unsymmetrical fault analysis)	Lecture/Tutorial
8		Numerical examples/Problem solving	Group work (exercise)
9	Weeks 13 to 15 (10 contact hours, including four contact hours for problem solving)	Stability studies	Lecture/Tutorial
10		Numerical examples/Problem solving	Group work (exercise)

Mode of Assessment				
S.No.	**Mode of Assessment**	**Week/Date**	**Duration**	**% Weightage**
1	1st Mid Semester Examination (Written test) (1st and 2nd Units)	6th Week	60 Minutes	20
2	2nd Mid Semester Examination (Written test) (3rd and 4th Units)	12th Week	60 Minutes	20
3	Take Home / Team Task	3rd to 13h week	Work will be carried out along with the course	10
4	Retest (Written Test) (1st to 4th Unit)	14th week	60 Minutes	20
5	End Semester Examination (Written test)	16th week	180 Minutes	50

Note:

1. **Attending all the assessments (Assessment 1-3 and 5) are MANDATORY for every student.**
2. **If any student is not able to attend Assessment-1 (1st Mid Sem) / Assessment-2 (2nd Mid Sem) due to genuine reason, student is permitted to attend the Assessment- 4 (retest) with 20% weightage (20 marks).**
3. **In any case, retest will not be considered as an improvement test.**
4. **Relative grading will be based on the clusters (range) of the total marks (mid exams, team task, semester examination etc. put together for each student) scored for grading by adopting Gap theory/Normalized curve. Letter grades, minimum pass marks and the corresponding grade points will be as per institute norms.**

ESSENTIAL READINGS :
1. John .J. Grainger & Stevenson.W.D., 'Power System Analysis', McGraw Hill, 1 st Edition, 2003.
2. D P Kothari, I J Nagrath 'Modern Power System Analysis', 3rd Edition, 2011.
3. Hadi Saadat, 'Power System Analysis ', Tata McGraw-Hill Education, 2nd Edition, 2002.

COURSE EXIT SURVEY
Shall be obtained at the end of the course

COURSE POLICY

ATTENDANCE

1. Attendance will be taken by the faculty in all the contact hours. Every student should maintain minimum 75 % physical attendance in these contact hours to attend the end semester examination.
2. Any student, who fails to maintain 75% attendance need to appear for the retest. Student who scores more than 50 % marks in the retest will be eligible for attending the end semester examination.
3. Students not having 75% minimum attendance at the end of the semester and also fail in retest (scoring less than 50%) will have to RE-DO the course.

ACADEMIC HONESTY & PLAGIARISM

1. Copying in any form during assessments is considered as academic dishonesty and will attract suitable penalty.

FOR APPROVAL

Course Faculty _____ **CC-Chairperson** _____ 31/7/2017 **HOD** _____ 31/07/2017