

DEPARTMENT OF INSTRUMENTATION AND CONTROL ENGINEERING

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN

COURSE OUTLINE			
Course Code & Name	ICLR11 CIRCUITS AND DIGITAL LABORATORY for Section B		
Programme & Semester	B.Tech Semester III	No. of Credits	2
Department	ICE	Faculty	Ms. K. Lakshmi Mr. P. Karthick
Pre - requisites Course Code	Not required		
Course Coordinator(s) (if, applicable)	Ms. K. Lakshmi		
Course Teacher E-mail	<u>lakshmik@nitt.edu</u> <u>karthip@nitt.edu</u>	Telephone No.	9940934251 9791020479
Course Type	Core Course		
COURSE OVERVIEW			
The basic objective is to give hands-on experience in analysis of circuits.			
COURSE OBJECTIVES			
The laboratory will enable students to conduct, analysis based and synthesis based experiments on analog and digital electronic circuits and to develop a deep understanding of design issues and implementation issues of the subject.			
COURSE OUTCOMES (CO)			
Course Outcomes	Aligned Programme Outcomes (PO)		
Every experiment includes several features: pre- lab reading, model of the various parts of the experiment, investigation, data recording, data analysis, evaluation and interference.	1, 2, 3, 4, 5, 6, 7		

COURSE TEACHING AND LEARNING ACTIVITIES				
Sl.No.	Week	Topic	Mode of Delivery	
1.	1 st week	Instruction and introduction to lab experiments	Chalk & Talk	
2.	2 nd week	Basic circuit analysis methods: nodal and mesh analysis	Experiment	
3.	3 rd week	Superposition theorem and Thevenin's Theorem	Experiment	
4.	4 th week	Repeat lab	Experiment	
5.	5 th week	Transient analysis of RL, RC and RLC circuits	Experiment	
6.	6 th week	Frequency response analysis	Experiment	
7.	7 th week	Repeat lab	Experiment	
8.	8 th week	Boolean function Minimization	Experiment	
9.	9 th week	Combinational and sequential digital circuits	Experiment	
10.	10 th week	Repeat lab	Experiment	
11.	11 th week	Objective type test	Experiment	
COURSE ASSESSMENT METHODS				
S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Design calculation, experimentation and graph and result.	During every class	3 Hrs	45%
2	Objective test	During 11 th week	1 Hr	25%
3	Design problem test	During last week	2 Hrs	30%

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

Text Books:

1. Hayt, W.H, Kemmerly J.E. & Durbin, Engineering Circuit Analysis, McGraw Hill Publications, 8th edition, 2013.
2. Ramakalyan, A., Linear Circuits: Analysis & Synthesis, Oxford Univ. Press, 2005.
3. Van Valkenburg, Network Analysis, Prentice Hall, 3rd Edition, 2006
4. Van Valkenburg, M.E., Introduction to Modern Network Synthesis, Wiley, 1960.
5. M.M. Mano, Digital Logic and Computer Design, Pearson, 4th Edition, 2014.

Reference Books:

1. Askeland D.R. *The Science and Engineering of Materials*, 2nd Edition, Chapman and Hall, London, 1989

COURSE EXIT SURVEY

An exit survey will be taken from the student at the end of the semester through a questionnaire on coverage of syllabus, usefulness of course-plan, teaching efficiency, etc.

COURSE POLICY

- The minimum attendance for this course is 70%
- Students who have less than 70% of attendance have to rejoin the course after a year along with next batch. V indicates prevention due to lack of attendance (< 70%)

GRADING:

Z score will be used to decide the clusters of the total mark scored. The passing minimum should be class average/2.

FORMATIVE ASSESEMENT:

Students who have failed during the regular assessment of the laboratory course with an F grade should register for formative assessment and pass it.

FOR SENATE'S CONSIDERATION

Course Faculty

1. *Lakshmi.K*
LAKSHMI.K

2.

Karthick.P
KARTHICK.P

CC-Chairperson :

Goldin R. Bennet
18-7-2017

HOD:

B. Kumar
19/7/17

Date:

19/7/17

