

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

COURSE OUTLINE TEMPLATE			
Course Title	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING		
Course Code	EEIR11 (For 1 st year Chemical Engineering)	No. of Credits	02
Department	EEE	Faculty	Dr. Sishaj P Simon
Pre-requisites Course Code	---		
Course Coordinator(s) (if, applicable)	Dr. Sishaj P Simon		
Other Course Teacher(s)/Tutor(s) E-mail	---	Telephone No.	0431-2503265
Course Type	<input checked="" type="checkbox"/> Core course		<input type="checkbox"/> Elective course
COURSE OVERVIEW			
<p>Students get exposure to the fundamental of electrical devices and circuits. Students will be taught about the principle of operation and applications of several electrical machines. Students will understand the house wiring and electrical safety techniques and have an opportunity to make a practical attempt on house wiring. Further they will be exposed to basics of analog and digital electronic devices, circuits and simple applications.</p>			
COURSE OBJECTIVES			
<p>This course aims to equip the students with a basic understanding of Electrical circuits and machines for specific types of applications. The course gives a comprehensive exposure to house wiring. This course also equips students with an ability to understand basics of analog and digital electronics.</p>			
COURSE OUTCOMES (CO)		Aligned Programme Outcomes (PO)	
<p>The students shall develop an intuitive understanding of the circuit analysis, basic concepts of electrical machines, house wiring and basics of electronics and be able to apply them in practical situation.</p>		-	

COURSE TEACHING AND LEARNING ACTIVITIES			
S.No.	Week	Topic	Mode of Delivery
1	Weeks 1 to 3 (5 contact hours)	Basics of dc and ac circuits - Concepts	Lecture C&T/ PPT or any suitable mode
2	Week 3 (1 contact hours)	numerical examples/ problem solving	Group work (exercise)
3	Weeks 4 to 6 (5 contact hours)	DC & AC Machine- construction, principle of operation, types and applications.	Lecture C&T/ PPT or any suitable mode
4	Week 6 (1 contact hours)	numerical examples/ problem solving	Group work (exercise)
5	Weeks 7 to 8 (4 contact hours)	House Wiring - Tools and Components, types & safety Measures	Lecture C&T/ PPT or any suitable mode
6	Weeks 9 to 11 (6 contact hours)	Analog Electronics - Semiconductor Devices, Operational Amplifier and Introduction to UPS	
7	Weeks 12 to 14 (5 contact hours)	Digital Electronics : Number Systems, Boolean Laws, Implementation with Logic Gates	
8	Week 14 (1 contact hours)	numerical examples/ problem solving	Group work (exercise)

COURSE ASSESSMENT METHODS

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	1 st Cycle Test Examination (Written test) (1 st and 2 nd Units)	6 th Week	60 Minutes	20
2	2 nd Cycle Test Examination (Written test) (3 rd and 4 th Units)	11 th Week	60 Minutes	20
3	Take Home / Team Task	3 rd to 12 th week	Work will be carried out along with the course	10
4	Retest (Written Test) (1 st to 4 th Unit)	13 th week	60 Minutes	20
5	End Semester Examination (Written test)	15 th week	180 Minutes	50

