121 CPE Course Syllabus

Course Code	e CPE121					
Course Name	Electronic Workshop					
Credit Hours	1					
Contact Hours	2					
Instructor Name	Dr. Syed Jaffar Ali					

Text Book (title, author, and year)

- Electrical wiring manual by Mr. Syed Jaffar Ali
 PCB making manual by Mr. Harun Bangali
 Measurements & Devices manual by Mr. Syed Jaffar Ali

Specific Course Information							
Catalog Description	The workshop is to equip the students about various mechanical, electronic and electrical entities such as electrical wiring systems and accessories, soldering techniques, printed circuit board development, Introduction to CHIP Design, Cable jointing, Earthing ,familiarization of starters both single phase and 3 phase circuits, transformer winding, energy meter, circuit switches etc.						
Prerequisites	NIL						
Co-requisites	NIL						
Required/Elective	required						

Cours	Course Learning Outcomes						
1	Describe the usage of electronic workshop in the current job market.						
2	Develop an ability to design an Electronic Circuit and process to meet desired outputs						
	within realistic constraints.						
3	Explain the techniques and tools to use in electronics workshop.						
4	Demonstrate act responsibility and ethically in conducting their work.						
5	Use of E-library to get the information.						
6	Demonstrate the use of tables and diagrams in electrical wiring.						

Mapping course LOs to the SLO.												
C	Student Learning Outcomes											
Course LOs #	a1	a2	b1	b2	b3	b4	b5	c1	c2	c3	d1	d2
1		V										
2					1							
3			V									
4									V			
5										V		
6											V	

List of Theory Topics

Printed Circuit board:

- 1. Introduction to circuit maker and Trax maker,
- 2. 2 To 1 And 4 To 1 Multiplexer Circuit Diagrams
- 3. Stepper Motor Circuit Diagram,
- 4. Astable And Bistable Multivibrators,
- 5. Clipper Circuits & 555 Timer Circuits,
- 6. Full wave Rectifier using Bread Board

Electrical Wiring:

- 1. Wire Joints, Soldering & Preparation of Cable Using Workstation,
- 2. Color code for network cable crimping,
- 3. Two way wiring & Types of Electrical Switches,
- 4. Staircase/go-down wiring,
- 5. AC Voltage Regulator,
- 6. Electrical wiring inside computer system

Electrical Measurement Lab:

- 1. Digital Laser Tachometer,
- 2. Cable Locator,
- 3. Thermo-hygrometer,
- 4. Sound level Meter,
- 5. Clamp Multimeter,
- 6. EMF Meter,
- 7. Noise Dose Meter,
- 8. Megger,
- 9. LCR Meter,
- 10. Analog Multimeter.