Electrical Engineering Practice 1

Module Information

2022.01, Approved

Summary Information

Module Code	4305CIT
Formal Module Title	Electrical Engineering Practice 1
Owning School	Engineering
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Changshu Institute of Technology

Learning Methods

Learning Method Type	Hours
Lecture	8
Practical	24

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-PAR	PAR	January	12 Weeks

Aims and Outcomes

Aims	To enhance knowledge and understanding of electrical and electronic circuits by completing a set of practical experiments. To gain experience in practical design of electronic circuits including prototyping and PCB design and manufacture. To develop professional practical skills to undertake experimental laboratory work, to test design ideas in laboratories or through simulation, to analyse and critically evaluate technical issues, and to present and document ideas and results. To develop the ability in data manipulation and sorting. To develop a personal development plan and understand the impact engineering has on the environment.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Safely carry out a range of basic laboratory procedures using standard processes, and know an electric shock first-aid method.
MLO2	2	Use CAD tools for design and simulation, perform the PCB welding, and produce a formal written report with conclusions.
MLO3	3	Demonstrate their commitment to undertake the on-going personal development required to become a professional engineer.
MLO4	4	Identify and reflect upon the following aspects of personal development: strengths and weaknesses, motivations and values, ability to work with others.
MLO5	5	Identify and reflect upon the following aspects of personal development: strengths and weaknesses, motivations and values, ability to work with others.

Module Content

Outline Syllabus	1. Experiments• Basic electrical principle• Kirchhoff's law, superposition principle and the theorem• Transient process of AC circuit• Proteus simulation• PCB design and soldering• Diode; transistors; Operational amplifier; Sequential logic circuit; The digital binary counters2. Personal Skills and Development• Schematic diagram reading; • Use of instruments and meters; • Data acquisition and analysis of learning experiment;• Master the practical skills of the workshop through the verification practice; • Understanding health, safety and risk assessment methodologies;3. Reports• Log records of measurement and observation. Storage structure of array • Carry out the result analysis, form the conclusion and write the report• Operation of file open, close, read, write
Module Overview	
Additional Information	The personal development portion of the module is assessed on a pass/fail basis.Students must complete the assessment exercises to a satisfactory standard in order to achieve a pass grade in this module.Reports are 2000 maximum word count.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Practice	Practical	100	0	MLO2, MLO3, MLO5, MLO1, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Brahim Benbakhti	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings