Liverpool John Moores University

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Title:	Electrical Engineering Practice 1
Status:	Definitive
Code:	**4505ELESBC** (120210)
Version Start Date:	01-08-2016
Owning School/Faculty:	Electronics and Electrical Engineering
Teaching School/Faculty:	The Sino-British College

Team	Leader
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Academic Level:	FHEQ4	**Credit Value:**	20	**Total Delivered Hours:**	72
Total Learning Hours:	200	**Private Study:**	128		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	12
Off Site	24
Practical	36

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS1	Laboratory Logbook	30	
Portfolio	AS2	Personal Development	10	
Portfolio	AS3	Field trip log book	30	
Report	AS4	Formal Laboratory Report/s	30	

Aims

To enhance knowledge & 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.

Learning Outcomes

After completing the module the student should be able to:

1	Safely carry out a range of basic Laboratory procedures using standard processes.
2	Process data collected during an experiment, use CAD tools for design and simulation, and produce a formal written report with conclusions.
3	Demonstrate their commitment to undertake the on-going personal development required to become a professional engineer. Identify and reflect upon the following aspects of personal development: strengths and weaknesses, motivations and values, ability to work with others.
4	Work as a team to gather data analyse the results and discuss the benefits and issues of various renewable energy systems.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Lab Logbook	1
Personal Development	3
Field trip log book	4
Formal lab reports	2

Outline Syllabus

Laboratory

- *Practical workshop skills*
- *Health & safety*
- *Reading schematic drawings*
- *Use of Instruments and taking measurement*

Personal Development

- *Developing Self Awareness (based on LJMU Bronze Award)*
- *Environmental & ethical responsibilities*

- *Team working*
- *Introduction to research skills*
- *Professional body requirements*

Experimental Methods
- *Report writing*
- *Handling experimental data*
- *Graphical representation*
- *Errors*
- *Analysis of results, and the formulation of conclusions*

Experimental Practice
- *Complete a series of experiments, keeping a logbook to record notes, measurements and observations.*

Learning Activities

Laboratory experiments, tutorials and residential field trip.

Notes

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.