

Liverpool John Moores University

Title: ENGINEERING APPLICATION
Status: Definitive
Code: **4005ENG** (105259)
Version Start Date: 01-08-2016

Owning School/Faculty: Electronics and Electrical Engineering
Teaching School/Faculty: Electronics and Electrical Engineering

Team	Leader
Wei Zhang	Y

Academic Level: FHEQ4 **Credit Value:** 12 **Total Delivered Hours:** 36
Total Learning Hours: 120 **Private Study:** 84

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	6
Practical	30

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Coursework: Laboratory logbook	20	
Essay	AS2	Coursework: Practical ability	40	
Essay	AS3	Coursework: Project report	40	

Aims

*To enhance knowledge & understanding of a typical engineering design project;
To gain experience in practical design of a product;
To develop professional skills in project management, presentation, and documentation.*

Learning Outcomes

After completing the module the student should be able to:

- 1 Familiarise with the process and steps involved in 'real' engineering design
- 2 Be aware of various constraints in implementation of the design
- 3 Gain experiences in project management and team work
- 4 Develop good engineering practice and skills

Learning Outcomes of Assessments

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

CW	1	3	
CW	1	2	4
CW	1	2	3

Outline Syllabus

This module will be delivered through a case study of a typical engineering design project. After receiving an 'order' from a 'client', the students will be guided to develop a 'product' through the following:

*Understanding the true need of 'client' and develop specifications.
Project planning: time schedule. Use of Gantt chart.
Search and choose appropriate solutions, components and materials.
Analyse the physical and financial constraints. Risk assessments
Evaluate the design through simulation by using Multisim.
Prototyping and construction.
Commissioning and testing.
Reliability considerations.
Documentation.*

Learning Activities

Practical sessions, supported by lectures where appropriate.

Notes

The type of the project will depend on the expertise of the lecturer, but it must be sufficiently challenging to reflect the 12 credit rating