

Liverpool John Moores University

Title: Engineering Principles
Status: Definitive
Code: **4001ELE** (120033)
Version Start Date: 01-08-2016

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

Team	Leader
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Academic Level: FHEQ4 **Credit Value:** 10 **Total Delivered Hours:** 38
Total Learning Hours: 100 **Private Study:** 62

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Tutorial	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Exam	70	2
Technology	Report	Online exercises	30	

Aims

This module is intended to provide students with a good appreciation of the mechanical properties and behaviours that influence electrical systems, and introduce how parameters are measured

Learning Outcomes

After completing the module the student should be able to:

- 1 Use appropriately basic measurement principles and data treatment
- 2 Describe basic mechanical parameters such as heat, temperature, stress and strain
- 3 DEfine basic measurement systems for key mechanical parameters
- 4 Identify the impact mechanical factors may have on electrical systems

Learning Outcomes of Assessments

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

Exam	1	2	3	4
Online exercises	1	2	3	4

Outline Syllabus

Units, precision, accuracy
Measurement systems, transducers and sensors
Error analysis
Heat, temperature
Forces, stress, strain
Sensors for mechanical parameters
Gyroscopes
Applications

Learning Activities

A series of lectures and tutorials

Notes

This module will provide students with a basic grasp of fundamental mechanical parameters, their measurement, and their impact on electrical circuits.