

## Liverpool John Moores University

Title: Additional Foundation Physics  
Status: Definitive  
Code: **3108FNDET** (126089)  
Version Start Date: 01-08-2021

Owning School/Faculty: Engineering  
Teaching School/Faculty: Engineering

Team	Leader
John Marsland	Y
Martin Sharp	

**Academic Level:** FHEQ3      **Credit Value:** 20      **Total Delivered Hours:** 57  
**Total Learning Hours:** 200      **Private Study:** 143

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	33
Workshop	22

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Examination	50	2
Test	Tests	A series of on-line tests	50	

### Aims

*The aim of this module is to provide students who may not have studied A-level physics with the prerequisite knowledge regarding mechanics, thermodynamics, materials, fields, electricity and electronics which is required to go on to study for an engineering or technology degree.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Apply knowledge of force, energy and momentum to analyse the behaviour of simple mechanical systems
- 2 Demonstrate an understanding of the properties of materials and ideal gases, and apply the equations that describe their characteristics.
- 3 Describe simple fields and their applications mathematically.
- 4 Use basic techniques to determine the behaviour of electronic components and systems.
- 5 Describe mathematically the behaviour of reactive components in DC and AC systems

## Learning Outcomes of Assessments

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

Examination	1	2	3	4	5
on-line tests	1	2	3	4	5

## Outline Syllabus

*Kinematics*

*Projectiles*

*Momentum and collisions*

*Solids and elasticity, plastics and fracture*

*Laws of thermodynamics*

*Gas dynamics*

*Electrostatics,*

*Capacitance, AC circuits, RC circuits, reactance and impedance*

*Magnetic fields, flux density, Faraday's law, Lenz's law, Inductance, motors, transformers, solenoids*

*Filters, inductance, LR circuits*

*LRC circuits, resonant frequency*

*Logic gates*

*Boolean algebra, combinational logic*

## Learning Activities

Lectures and workshops

## Notes

This module looks at the fundamentals of Physics, using the maths developed during the Foundation Mathematics modules.