

## Liverpool John Moores University

Title: Introductory Foundation Physics  
Status: Definitive  
Code: **3107FNDET** (126088)  
Version Start Date: 01-08-2021

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

Team	Leader
Marco Messina	Y
John Marsland	
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**Academic Level:** FHEQ3      **Credit Value:** 20      **Total Delivered Hours:** 57  
**Total Learning Hours:** 200      **Private Study:** 143

### Delivery Options

Course typically offered: Semester 1

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 basic knowledge of electricity mechanics, materials and waves 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 Describe the structure of an atom and explain how that relates to electrical properties
- 2 Describe the general properties of longitudinal and transverse waves in different media, and apply the governing equations to simple applications
- 3 Apply knowledge of force and motion to analyse the behaviour of simple mechanical systems
- 4 Demonstrate an understanding of the thermal properties of a simple system.
- 5 Explain the behaviour of simple resistive circuits and apply the equations which characterise them.

## Learning Outcomes of Assessments

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

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

## Outline Syllabus

*Units, measurement and analysis*

*Scalars and vectors*

*Atomic structure*

*Materials*

*Kinematics*

*Force*

*Friction*

*Energy*

*Energy conservation*

*Temperature, material expansion, mechanical equivalent of heat*

*Calorimetry, phase, heat transfer*

*Simple Harmonic Motion*

*Waves and interference*

*Circular motion*

*Electric charge, current and potential difference, energy, ohms law, power*

*Kirchhoff's Laws, resistor circuits, impedance matching, power transfer*

*Conductors, Insulators and Semiconductors, structure, characteristics and devices*

*Transistors,*

## Learning Activities

Lectures and workshops

## **Notes**

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