Additional Foundation Physics

Module Information

2022.01, Approved

Summary Information

Module Code	3108FNDET
Formal Module Title	Additional Foundation Physics
Owning School	Engineering
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 3
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Engineering

Learning Methods

Learning Method Type	Hours
Lecture	33
Workshop	22

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

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.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Apply knowledge of force, energy and momentum to analyse the behaviour of simple mechanical systems
MLO2	2	Demonstrate an understanding of the properties of materials and ideal gases, and apply the equations that describe their characteristics.
MLO3	3	Describe simple fields and their applications mathematically.
MLO4	4	Use basic techniques to determine the behaviour of electronic components and systems.
MLO5	5	Describe mathematically the behaviour of reactive components in DC and AC systems

Module Content

Outline Syllabus	KinematicsProjectilesMomentum and collisionsSolids and elasticity, plastics and fractureLaws of thermodynamicsGas dynamicsElectrostatics,Capacitance, AC circuits, RC circuits, reactance and impedanceMagnetic fields, flux density, Faraday's law, Lenz's law, Inductance, motors, transformers, solenoidsFilters, inductance, LR circuitsLRC circuits, resonant frequency Logic gatesBoolean algebra, combinational logic
Module Overview	The aim of this module is to provide basic knowledge of mechanics, thermodynamics, materials, fields and electronics for those who have not studied A-level physics to be able to study an engineering or technology degree.
Additional Information	This module looks at the fundamentals of Physics, using the maths developed during the Foundation Mathematics modules.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Examination	50	2	MLO1, MLO2, MLO3, MLO4, MLO5
Presentation	on-line tests	50	0	MLO1, MLO2, MLO3, MLO4, MLO5

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Gerard Edwards	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings