

College Physics 1

Module Information

2022.01, Approved

Summary Information

Module Code	3104CIT
Formal Module Title	College Physics 1
Owning School	Engineering
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 3
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Changshu Institute of Technology

Learning Methods

Learning Method Type	Hours
Lecture	56
Tutorial	24

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-PAR	PAR	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, materials and waves which is required to go on to study for an engineering or technology degree.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Apply their 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 apply the equations that describe their characteristics.
MLO3	3	Describe the general properties of longitudinal and transverse waves in different media, and apply the governing equations to simple applications.
MLO4	4	Use the basic principles of thermal physics and the concept of energy in the conversion of thermal processes, to derive and apply the basic equations of these principles.

Module Content

Outline Syllabus	(i) Particle kinematics • introduction • Particle movement description of the displacement, speed, acceleration and other concepts • Velocity, tangential and normal acceleration in plane motion • Application of Calculus to Solve Simple Kinematic Problems (ii) Particle dynamics • Newton 's Three Major Laws of Motion Selection statement • The cumulative effect of force on time in mass and particle • Cumulative effect of force on space in particle and particle (iii) Rigid body rotation • Rigid body rotational kinematics • Rigid body rotation dynamics (iv) Mechanical vibration and mechanical waves • Mechanical vibration • Mechanical waves (v) Gas dynamic theory • Preheat knowledge • The statistical law of equilibrium state (vi) Thermodynamics foundation • First law of thermodynamics • The second law of thermodynamics
Module Overview	
Additional Information	This module provides a basis physics of mechanics, materials and waves for level three students to analyse simple mechanical systems. For each topic area of the syllabus, relevant typical experiments will be provided. Reports are 2500 maximum word count. Examinations are 2 hour duration.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Exam	Examination	40	2	MLO3, MLO4
Report	Coursework	60	0	MLO1, MLO2, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
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Clifford Mayhew	Yes	N/A
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Partner Module Team

Contact Name	Applies to all offerings	Offerings
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