

## Liverpool John Moores University

Title: ESSENTIAL PHYSICS CONCEPTS  
Status: Definitive faculty appr change  
Code: **6010PGSKSC** (104419)  
Version Start Date: 01-08-2016

Owning School/Faculty: Education  
Teaching School/Faculty: Education

Team	Leader
Kenneth Clays	Y

**Academic Level:** FHEQ6      **Credit Value:** 24      **Total Delivered Hours:** 50  
**Total Learning Hours:** 240      **Private Study:** 190

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	20
Practical	10
Seminar	10
Tutorial	8

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1		40	2
Essay	AS2	(2400 words equivalent)	40	
Essay	AS3	(1200 word equivalent)	20	

### Aims

*This module will enable students to develop understanding of key physics principles relating to forces and energy.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Apply key concepts of energy, forces and waves to analysis of physical systems.
- 2 Critically evaluate and reflect on their learning and independently plan to extend their subject to a level appropriate for teaching secondary school physics.

## Learning Outcomes of Assessments

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

EXAM	1
Coursework	1
Coursework	2

## Outline Syllabus

*Forces and equilibrium*  
*Free body force diagrams*  
*Mass and weight*  
*Newton's Laws of Motion*  
*Classical 1-D mechanics and projectile motion*  
*Work and conservation of energy*  
*Energy transfer and transform models*  
*Power and efficiency*  
*Conservation of momentum*  
*Analysing elastic and inelastic collisions*  
*Transverse and longitudinal wave models*  
*Properties of waves (reflection and refraction)*  
*Electromagnetic spectrum*

## Learning Activities

Lectures, Workshops, Practicals and Independent study.

## Notes

The module supports learning about physics concepts relevant to the National Curriculum and Post-16 curricula and an audit of knowledge and understanding of physics content will be made during the module.