

Liverpool John Moores University

Title: MECHANICS 2
Status: Definitive
Code: **3003BELEN** (101129)
Version Start Date: 01-08-2011

Owning School/Faculty: Arts, Professional and Social Studies
Teaching School/Faculty: Bellerby's College - Brighton

Team	Leader
Jarmila Hickman	Y

Academic Level: FHEQ3 **Credit Value:** 12.00 **Total Delivered Hours:** 69.00
Total Learning Hours: 120 **Private Study:** 51

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	66.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Module Examination	100.0	3.00

Aims

To introduce mathematical modeling of force combinations, non-linear motion and non-uniform motion related to varying forces.

Learning Outcomes

After completing the module the student should be able to:

- 1 Explain the resultant effect of combined forces.
- 2 Use vector methods in simple applications.

- 3 Explain the motion and forces on a particle moving along a circular path.
- 4 Describe the causes and effects of sudden and cyclical changes in the motion of a particle.

Learning Outcomes of Assessments

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

EXAM 1 2 3 4

Outline Syllabus

Collisions including multiple collisions, the Law of Conservation of Momentum and Newton's Law of Restitution.

Statics of rigid bodies.

Further kinematics.

Elasticity including Hooke's Law and Equilibrium.

Further dynamics.

Circular motion – horizontal case, vertical examples and use of the WORK-ENERGY principle in problem solving.

Learning Activities

Explanatory lessons to and working examples with small classes, regular homework assignments, class tests and terminal module examination.

References

Course Material	Book
Author	Hebborn, J
Publishing Year	2000
Title	Mechanics 2
Subtitle	
Edition	
Publisher	Heinemann Educational
ISBN	9780435510756

Course Material	Book
Author	Hebborn, J
Publishing Year	2000
Title	Mechanics 3
Subtitle	
Edition	
Publisher	Heinemann Educational
ISBN	9780435510763

Notes

This module provides further study in Applied Mathematics as preparation for a first degree in Engineering subjects. It draws as well on material studied in the two modules of Pure Mathematics.