

## Liverpool John Moores University

Title: Applied Maths 2  
Status: Definitive  
Code: **3519IFESG** (124228)  
Version Start Date: 01-08-2021

Owning School/Faculty: Engineering  
Teaching School/Faculty: Study Group

Team	Leader
Jack Mullett	Y

**Academic Level:** FHEQ3      **Credit Value:** 10      **Total Delivered Hours:** 41.5  
**Total Learning Hours:** 100      **Private Study:** 58.5

### Delivery Options

Course typically offered: Semester 2 and Summer

Component	Contact Hours
Lecture	22
Seminar	12
Workshop	6

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	ASS1	Examination 1.5 hours	100	1.5

### Aims

*To build upon the basics of Applied Mathematics introduced in a first semester module and to give students the grounding necessary to progress to IY1.*

### Learning Outcomes

After completing the module the student should be able to:

- 1 Identify and combine appropriate equations in order to calculate the displacement, time, velocity or acceleration in problems of linear, projectile or circular motion.
- 2 Formulate expressions of conservation of energy in problems involving transfer of energy between two objects or conversion of energy from one type to another.
- 3 Formulate expressions of the conservation of linear momentum in two-body problems and use them in order to predict the outcome of impacts and collisions.

### **Learning Outcomes of Assessments**

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

Examination	1	2	3
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### **Outline Syllabus**

#### *Kinematics*

- *Introduction to the quantities required for the description of motion*
- *Linear motion with constant acceleration*
- *Projectile motion*
- *Circular motion*

#### *Energy and momentum*

- *Work, energy transfers and conversions*
- *Power*
- *Impulse of a force*
- *Linear momentum*

### **Learning Activities**

Building upon material from Semester 1, lectures and seminars will be used to further consolidate knowledge of Applied Maths. Students also use computer simulations and have practical sessions where they can examine the principles they have learnt in action.

### **Notes**

None