

Liverpool John Moores University

Title: ESSENTIAL PURE & APPLIED MATHEMATICS
Status: Definitive
Code: **4209PSM** (104199)
Version Start Date: 01-08-2016

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

Team	Leader
Marcus Hill	Y

Academic Level: FHEQ4 **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
Seminar	28

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	50	2
Essay	AS2	Coursework (3000 words)	50	

Aims

To ensure that all students have a secure knowledge of mathematics at Key Stage 3 & 4 and beyond, and to be able to structure that knowledge in a meaningful way and that apply it to a wide variety of situations.

Learning Outcomes

After completing the module the student should be able to:

- 1 Select and use appropriate mathematical techniques to the solution of abstract and applied problems.
- 2 Recognise the progression of concepts in algebra and calculus.
- 3 Employ appropriate technological tools to find exact or approximate solutions to a variety of mathematical problems.

Learning Outcomes of Assessments

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

EXAM	1		
Coursework	1	2	3

Outline Syllabus

Accuracy, estimation and error
Set theory
Functions and graphs
The logarithmic & exponential functions
Vectors
Matrix algebra
Roots, powers and reciprocals
Quadratic equations
Simultaneous equations (degree 2&3)
Algebraic inequalities
Numerical methods for the solution of polynomials
Methods of differentiation
Methods of integration

Learning Activities

Mathematical concepts will be explored in of interactive lectures and workshops backed up by tasks for independent learning. Assessment is by a series of marked excercises and a terminal exam.

Notes

This module aims to identify topics in A Level mathematics, which are familiar to the students and extend the depth of their knowledge and understanding, establishing the foundation of algebra and ensuring that all students have a common base from which to proceed on the mathematics education modules. (Students come to the course from a range of A Level and other equivalent syllabi).