

Liverpool John Moores University

Title: EXTENDING PURE & APPLIED MATHEMATICS
Status: Definitive faculty appr change
Code: **6211PSM** (104212)
Version Start Date: 01-08-2016
Owning School/Faculty: Education
Teaching School/Faculty: Education

Team	Leader
Barry Grantham	Y

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

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	20
Seminar	28

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Exam	50	2
Report	AS2	Using ICT in the solution of mathematical problems (3000 words)	50	

Aims

To extend students' knowledge and skills of particular mathematics topics to degree level.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate a critical understanding of mathematics at degree level.
- 2 Develop a systematic understanding of the use of information technologies to analyse and solve a range of mathematical problems.
- 3 Demonstrate a critical understanding of the role of calculus in the analysis of probability distributions.
- 4 Identify and utilise a range of numerical approaches to the solution of analytical calculus problems.

Learning Outcomes of Assessments

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

EXAM	1	3		
CW	1	2	3	4

Outline Syllabus

Using continuous distributions to approximate discrete distributions

Hypothesis testing

Discrete and continuous probability density functions

Chi Squared Test

Standard methods for the solution of first and second order differential equations

Laplace Transforms

Numerical methods of solution of differential equations

Calculation of volume under a surface using double integrals

Learning Activities

Students will engage in a variety of interactive lectures, workshops and seminars backed up by internet sessions and independent learning.

Notes

In this module students will take forward their subject knowledge up to degree level in the field of differential equations and integration.