LIVERPOOL JOHN MOORES UNIVERSITY

Modelling 1

Module Information

2022.01, Approved

Summary Information

Module Code	4111MATHS
Formal Module Title	Modelling 1
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours
Lecture	33
Practical	11
Tutorial	16

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	To introduce the student to fundamentals of algebra and functions which will be built upon in mathematical methods in Semester 2 and complements applications in modelling 2

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Understand the basic theory of functions
MLO2	2	Use function notation: recognise standard forms of functions and sketch, plot and interpret their output
MLO3	3	Handle elementary series and series approximations to functions
MLO4	4	Use relevant computer software as appropriate to solve problems and investigate fundamental mathematical concepts
MLO5	5	Perform elementary vector algebra
MLO6	6	Perform calculations in complex arithmetic

Module Content

Outline Syllabus	Introduction to theory of functionsFunctions- straight line- quadratics, cubics- Polynomials: finding roots, remainder theorem- Trigonometric functions: sine, cosine, tangent sec, cosec, cot- Inverse trigonometric functions- Exponential, logarithmic- Hyperbolic functions: cosh, sinh- complex numbersBinomial expansionsSeries: arithmetic, geometricVectors
Module Overview	The aim of this module is to introduce you to fundamentals of algebra and functions which will be built upon throughout the year.
Additional Information	This is an integrative module to give students proficiency and confidence in the use of fundamental mathematical concepts. The module sets the foundation for relating defined mathematical concepts to areas of mathematical sciences and has a focus on problem solving.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Portfolio	Continual online assessment	50	0	MLO1, MLO2, MLO3, MLO5, MLO6
Report	Curve sketching 2000words	50	0	MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Stewart Chidlow	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings