

### Summary Information

<b>Module Code</b>	4114MATHS
<b>Formal Module Title</b>	Fundamentals of Mathematics
<b>Owning School</b>	Computer Science and Mathematics
<b>Career</b>	Undergraduate
<b>Credits</b>	20
<b>Academic level</b>	FHEQ Level 4
<b>Grading Schema</b>	40

### Module Contacts

#### Module Leader

Contact Name	Applies to all offerings	Offerings
Amir Asghari	Yes	N/A

#### Module Team Member

Contact Name	Applies to all offerings	Offerings
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#### Partner Module Team

Contact Name	Applies to all offerings	Offerings
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### Teaching Responsibility

<b>LJMU Schools involved in Delivery</b>
Computer Science and Mathematics

### Learning Methods

Learning Method Type	Hours
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Lecture	22
Practical	33

## Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	12 Weeks

## Aims and Outcomes

<b>Aims</b>	To familiarise students with fundamental skills and mathematical techniques. To provide students with an appreciation of the concept of mathematical proof and give opportunities for practicing different proof techniques. To introduce students to mathematical writing. To give students an appreciation in which historical context and in which cultures fundamental mathematical concepts originated.
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## Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Apply fundamental mathematical skills and implement them in the solution of practical problems.
MLO2	Carry out and understand routine calculations related to logical formulae and sets, sequences and series, functions and mappings and complex arithmetic.
MLO3	Clearly present mathematical arguments in oral presentations and in writing.

## Module Content

Outline Syllabus
Logic and set theory Sequences and series Function and mappings Complex numbers Introduction to the concept of mathematical proof Writing and presenting mathematics

## Module Overview

Additional Information
This module aims to increase confidence in using a variety of fundamental mathematical techniques. In both the sections covering mathematical skills as well as the introduction to proof the historical context and the cultural background will be explained to give students and appreciation of the diversity of mathematics.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Portfolio	Portfolio	40	0	MLO1, MLO2
Presentation	Presentation	60	0	MLO3, MLO1, MLO2