

Liverpool John Moores University

Title: MATHEMATICS FROM THE STONE AGE TO THE SILICON AGE
Status: Definitive
Code: **4210PSM** (104200)
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:** 46
Total Learning Hours: 240 **Private Study:** 194

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	20
Seminar	5
Tutorial	1
Workshop	20

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS1	Coursework Portfolio (3000 words)	50	
Portfolio	AS2	Coursework Poster (1500 words)	25	
Portfolio	AS3	Coursework Presentation (1500 words)	25	

Aims

This module allows students to develop skills and confidence in using information

and Communication Technology and historical topics effectively in the teaching and learning of mathematics. It will also encourage students to assess how IT can be used as a teaching and learning tool within the mathematics curriculum and provide an insight into the development of mathematics through the study of a range of topics from the history of mathematics.

Learning Outcomes

After completing the module the student should be able to:

- 1 Compare and evaluate a variety of information and communication technology resources and plan to use them to enhance mathematical teaching and learning.
- 2 Describe and comment on historically important mathematical topics and recognise their importance in the development of mathematics.
- 3 Solve a range of mathematical problems drawn from the history of mathematics.

Learning Outcomes of Assessments

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

Portfolio	1	2	3
Poster	2	3	
Presentation	1		

Outline Syllabus

Using spreadsheets to produce graphs and charts

Using spreadsheets to develop algebraic knowledge and understanding

Using spreadsheets to model problems

Using content free mathematical software

Graphical calculators

Development of the number system across different civilisations

The geometry of the Greeks

The development of Algebra

Topology & Networks

The beginning of Calculus

Women and mathematics

Learning Activities

Historical topics will be investigated through a mixture of interactive lectures, web based learning and independent study. ICT applications will be taught in a hands-on manner through workshops and fieldwork observations.

Notes

This module will indicate ways to use information technologies to explore, learn and teach mathematical concepts and processes. It will also explore key topics in the development of mathematics from ancient times to the modern day.