

Liverpool John Moores University

Title: MATHEMATICAL HISTORY, PHILOSOPHY AND EDUCATION
Status: Definitive
Code: **5116EDSTUD** (117574)
Version Start Date: 01-08-2018

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

Team	Leader
Marcus Hill	Y

Academic Level: FHEQ5 **Credit Value:** 24 **Total Delivered Hours:** 48

Total Learning Hours: 240 **Private Study:** 192

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	36
Seminar	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Presentation	History	Presentation on a selected historical topic	30	
Essay	Philosophy	Essay comparing mathematical philosophies	40	
Essay	Education	Report on mathematical education issue from the media or current research	30	

Aims

To explore aspects of the history and philosophy of mathematics and how these influence current mathematical thinking. To explore issues in mathematics education and how these interact with historical and philosophical ideas. To understand some

of the theory of mathematics teaching and learning.

Learning Outcomes

After completing the module the student should be able to:

- 1 Synthesise ideas from the history of mathematics and explain their relevance to current mathematical thinking and education
- 2 Compare the merits of different stances in the philosophy of mathematics
- 3 Understand the theoretical, philosophical and political background to current mathematical education policies and practice

Learning Outcomes of Assessments

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

Historical topic	1
Philosophical argument	2
Educational issue	3

Outline Syllabus

The development of number, calculation and algebra
The geometry of the Greeks
Pythagoras' theorem and trigonometry from around the world
The birth of calculus
Important women in the history of mathematics
Greek philosophies of mathematics, Platonism
Empiricism
Logicism
Formalism and Gödel's theorems
Intuitionism and constructivism
The history of mathematics education
Some theories of mathematics teaching and learning
Current mathematics education policies and practice
Issues in mathematics education

Learning Activities

Lectures, seminars and independent learning activities.

Notes

Optional course for Mathematics and Education Studies