Liverpool John Moores University

Title:	INDEPENDENT SKILLS DEVELOPMENT
Status:	Definitive
Code:	**5101MATHS** (124201)
Version Start Date:	01-08-2021
Owning School/Faculty:	Computer Science and Mathematics
Teaching School/Faculty:	Computer Science and Mathematics

Team	Leader
Ian Malabar	Y
Stewart Chidlow	
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Academic Level:	FHEQ5	**Credit Value:**	20	**Total Delivered Hours:**	55
Total Learning Hours:	200	**Private Study:**	145		

Delivery Options
Course typically offered: Semester 2

Component	Contact Hours
Lecture	22
Practical	11
Tutorial	22

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Practice	AS1	Exercises in MyMathLab	50	
Presentation	AS2	Presenting sports statistics	50	

Aims

Understand nature of formal proof.
Ability to defend mathematical arguments to peers.
Reinforce manipulative skills in algebra and calculus.

Learning Outcomes

After completing the module the student should be able to:

1 Demonstrate skills in calculus and algebra
2 Present and defend mathematical proofs

Learning Outcomes of Assessments

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

MyMathLab tests	1
Proof presentation	2

Outline Syllabus

Multivariate calculus, partial differentiation, multiple integrals
Linear algebra, special types of matrices and applications thereof.
Manipulation of complex numbers, up to powers and roots using Euler's formula.
Mathematical proof, by exhaustion, contradiction, induction and other techniques.

Learning Activities

Lectures, practice using in-class electronic formative assessment and sessions based on the presentation of proofs.

Notes

This module brings together case studies in statistics and linear algebra.