Module Specification

Module Summary Information

1	**Module Title**	Mathematics for Engineers 1
2	**Module Credits**	20
3	**Module Level**	3
4	**Module Code**	ENG3009

5	**Module Overview**

Mathematics plays a key role in establishing and grounding the professional skills of an engineer. Communicating the ideas of engineering is made both easier and harder by the use of mathematical language.

This module aims to help you become proficient at developing engineering models and arguments, and following them through to their logical conclusions, since application of these arguments has to include their interpretation both to and from the mathematical language.

This module will develop your ability to both work on and communicate engineering truths to a wider audience, at a professional standard.

The module also enables you to learn and develop key, transferable skills which are essential components for use in other modules on the course and beyond.

6	**Indicative Content**

Algebra, Indices and logs,

Simultaneous equations, Sequences and series,

Trigonometry, Sine and Cosine rules,

Quadratic equations, Exponential functions, Matrices, Binomial theorem,

Straight lines, Line and Curve of best fit.

7	**Module Learning Outcomes** **On successful completion of the module, students will be able to:**	
	1	Apply the laws of algebra, indices and logs.
	2	Apply Pythagoras and use trigonometry to solve practical problems.
	3	Use matrix algebra.
	4	Solve equations and sketch functions.

8	Module Assessment		
Learning Outcome			
	Coursework	**Exam**	**In-Person**
1-4	**X**	**X**	

9	Breakdown Learning and Teaching Activities
Learning Activities	**Hours**
Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable	72
Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE	0
Private Study (PS) includes preparation for exams	128
Total Study Hours:	200