

Module Information

2022.01, Approved

Summary Information

Module Code	3502USST
Formal Module Title	Foundation Mathematics for Engineering and Technology 1
Owning School	Engineering
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 3
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
University of Shanghai For Science and Technology

Learning Methods

Learning Method Type	Hours
Tutorial	22
Workshop	22

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-PAR	PAR	September	12 Weeks

Aims and Outcomes

Aims	This module aims to provide students with the mathematical knowledge, understanding and skills which are required to use mathematics as an analytical tool in engineering and technology subjects.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Apply arithmetic operations to manipulate numbers and calculate values.
MLO2	2	Manipulate and solve a range of equations algebraically and numerically.
MLO3	3	Illustrate mathematical functions in a graphical form.
MLO4	4	Apply geometrical principles to engineering and technology applications.

Module Content

Outline Syllabus	The list below provides an indicative list of topics which may be covered in this module: Arithmetic: • Factors, multiples. Concepts of highest common factor and lowest common multiple. • Fractions, addition, multiplication, division, simplification. • Decimal fractions, decimal places, significant figures, scientific notation, rounding off. • Error, percentage, modulus, sigma notation. Algebra: • Fractions; addition, multiplications, division, simplification. • Algebraic formulae, equations, transposition, simplification, factorization. • Powers, product, quotient, power of a power, roots, negative indices. • Proportionality, direct proportionality, inverse proportionality. • Linear equations, solution, graphs. • Simultaneous linear equations, analytical and graphical solution. • Quadratic equations, solution using formula, graphs. • Exponential functions, introduction. • Logarithms, logs to base 10, natural logs, products, quotients, powers. • Inequalities, intervals. Geometry: • Perimeters, areas, volumes, typical applications. • Cartesian coordinates, straight line - gradient intercept form
Module Overview	
Additional Information	This module covers the fundamental mathematical skills needed for further study in engineering and technology subjects, and will include extensive practice problem solving, assessed regularly to support a structured approach to learning.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Exam	Final examination	70	2	MLO1, MLO2, MLO3, MLO4
Portfolio	Continual assessment	30	0	MLO1, MLO2, MLO3, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Ian Jarman	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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