LIVERPOOL JOHN MOORES UNIVERSITY

Module Proforma

Approved, 2022.02

Summary Information

Module Code	3102FNDET
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

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Margaret Toft	Yes	N/A

Module Team Member

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

Partner Module Team

Contact Name	Applies to all offerings	Offerings

Teaching Responsibility

LJMU Schools involved in Delivery
Engineering

Learning Methods

Learning Method Type	Hours
Lecture	22
Workshop	22

Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	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.

Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Apply arithmetic operations to manipulate numbers and calculate values.
MLO2	Manipulate and solve a range of equations algebraically and numerically.
MLO3	Represent functions in a graphical form.
MLO4	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

This module aims to provide you with the mathematical knowledge, understanding and skills which are required to use mathematics as an analytical tool in engineering and technology subjects.

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)	Learning Outcome Mapping
Centralised Exam	Final examination	70	2	MLO4, MLO2, MLO3, MLO1
Portfolio	Continual assessment	30	0	MLO4, MLO2, MLO3, MLO1