

Summary Information

Module Code	5202CIV
Formal Module Title	Applied Mathematics
Owning School	Civil Engineering and Built Environment
Career	Undergraduate
Credits	10
Academic level	FHEQ Level 5
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Civil Engineering and Built Environment

Learning Methods

Learning Method Type	Hours
Lecture	22
Tutorial	11

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	To develop knowledge and understanding of the probability theory and statistics underpinning engineering, and to apply these techniques within an engineering context. To further develop the knowledge and understanding of relevant mathematical techniques underpinning engineering, and to apply these within an engineering context.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Demonstrate knowledge and understanding of probability, and apply the theory proficiently and critically to the solution of engineering problems.
MLO2	2	Apply a range of statistical methods, tools and notations proficiently in the analysis and solution of engineering problems.
MLO3	3	Apply wave theory and basic mass and string models proficiently in the analysis and solution of engineering problems.

Module Content

Outline Syllabus	Probability Discrete and continuous distributions Hypothesis testing: Mann Whitney, t-test, Chi-squared Correlation and regression. Monte Carlo method 2nd order differential equations: homogeneous and inhomogeneous Partial Differentiation Partial Differential Equations: Waves on a string
Module Overview	This module develops your knowledge and understanding of engineering mathematics and statistics, and their limitations, for use in the analysis and solution of engineering problems. You will develop knowledge and understanding of the probability theory and statistics underpinning engineering, and apply these techniques within an engineering context. This module will help you be able to apply a range of statistical methods, tools and notations proficiently in the analysis and solution of engineering problems.
Additional Information	This module develops the student's knowledge and understanding of engineering mathematics and statistics, and their limitations, for use in the analysis and solution of engineering problems. On Civil Engineering Degrees the knowledge learning outcomes are K2 and S3. On the Building Services Engineering Degree Apprenticeship programme, the knowledge learning outcomes are K1 and K2 and the skills learning outcomes are S1.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Examination	100	1.5	MLO1, MLO2, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Stephen Wylie	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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