Engineering Mathematics II

Module Information

2022.01, Approved

Summary Information

Module Code	5302CIV
Formal Module Title	Engineering Mathematics II
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.

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 damped mass and spring models and the 1-dimensional wave equation proficiently in the analysis and solution of engineering problems.

Module Content

Outline Syllabus	ProbabilityDiscrete and continuous distributionsHypothesis testing: Mann Whitney, t-test, Chi-squaredCorrelation and regression.The Monte Carlo methodInhomogeneous 2nd order differential equation Partial DifferentiationThe 1-dimensional wave equation
Module Overview	
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.

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