Module Proforma

Approved, 2022.02

Summary Information

Module Code	5302DCIV
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

Module Contacts

Module Leader

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

Module Team Member

Contact Name	Applies to all offerings	Offerings
Pelumi Ojuri	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings

Teaching Responsibility

LJMU Schools involved in Delivery
Civil Engineering and Built Environment

Learning Methods

Learning Method Type	Hours
Lecture	11
Online	11
Tutorial	11

Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	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.

Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Demonstrate knowledge and understanding of probability and apply the theory proficiently and critically to the solution of engineering problems.
MLO2	Apply a range of statistical methods, tools and notations proficiently in the analysis and solution of engineering problems.
MLO3	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)	Learning Outcome Mapping
Centralised Exam	Examination	100	1.5	MLO3, MLO2, MLO1