MODULE SPECIFICATION

Part 1: Information			
Module Title	Foundation Mathematics for the Built Environment		
Module Code	UBLMSA-15-0	Level	Level 3
For implementation from	2019-20		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Architecture and the Built Environment
Department	FET Dept of Architecture & Built Environ		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Educational Aims: This module develops skills in algebra and calculus through applied problem-based numerical methods.

Outline Syllabus: Algebra

Introduction to Algebra. Simultaneous Linear Equations. Linear Equations and Graphs. Quadratic Equations. Solving Quadratics by completing the square. Graphs of Quadratic Functions. Simultaneous Solution of Quadratic and Linear Equations. Introduction to Partial Fractions.

Functions

Functions and inverses. Function of a Function. Properties of standard functions used in engineering: polynomial, rational, trigonometric, exponential and logarithmic functions.

Calculus

Differential Calculus. The Derivatives of other Functions. Maxima and Minima. The Chain Rule. The Product Rule and Quotient Rule. The Second Derivative. Integration. The Definite Integral. Introduction to Integration by Parts.

Teaching and Learning Methods: The learning strategy is to guide students through highly structured workbooks that encourage active learning.

Part 3: Assessment			
The assessment strategy uses continuous assessment to provide feedback to students so that they can assess their progress throughout the year and an end of module examination to assess whether students have reached an appropriate standard in mathematics to progress to single honours programmes in design engineering. Component A Exam - a two hour end of module examination has been chosen to test numeracy and the understanding and knowledge of the fundamentals of physics, engineering and mathematics under controlled conditions. Component B e-assessments - consists of a series of e-assessments that provide instant feedback and a midsessional examination that will provide feedback on written work.			
First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Online Assignment - Component B		25 %	E-assessment
Examination - Component A	✓	75 %	Exam (2 Hours)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Online Assignment - Component B		25 %	E-assessment
Examination - Component A	✓	75 %	Exam (2 Hours)

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will achieve the following learning outcomes:

Module Learning Outcomes	**Reference**
Perform numerical calculations to an appropriate level of accuracy	MO1
Solve equations that involve standard mathematical functions used in engineering	MO2
Differentiate and integrate standard mathematical functions used in engineering	MO3
Select and apply suitable mathematical techniques to solve extended problems	MO4

Contact Hours

Independent Study Hours:

Independent study/self-guided study	114
Total Independent Study Hours:	114

Scheduled Learning and Teaching Hours:

	Face-to-face learning	36
	Total Scheduled Learning and Teaching Hours:	36
	Hours to be allocated	150
	Allocated Hours	150
Reading List	*The reading list for this module can be accessed via the following link:* https://uwe.rl.talis.com/modules/ublmsa-15-0.html	

Part 5: Contributes Towards
This module contributes towards the following programmes of study: