UNIVERSITY of BRADFORD

Module Descriptor

Foundation Mathematics 1

Module Code:	ENM3001-B
Academic Year:	2018-19
Credit Rating:	20
School:	Engineering and Informatics (Faculty-wide)
Subject Area:	Engineering Mathematics
FHEQ Level:	FHEQ Level 3

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	48
Tutorials	24
Laboratory	2
Directed Study	124
Examinations DO NOT USE	2

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 1 (Sep - Jan)

Module Aims

(1) To develop the basic skills of algebra and geometry and to introduce the mathematics of engineering. To extend the knowledge base in algebra and geometry and to introduce concepts of statistics.
(2) To provide students with an appreciation of the breadth of engineering. To develop computing skills. To successfully deploy these skills to generate and communicate engineering knowledge to a range of audiences.

Outline Syllabus

Basic algebra: rules of indices and logarithms, manipulation of formulas, factorisation, completing the square, linear and quadratic equations and associated inequalities.
' Plane co-ordinate geometry: distance, lines, circles.
' Functions: notation, polynomial, reciprocal, trigonometric, exponential and logarithmic functions with properties and graphs.
' Series: arithmetic, and geometric series.
' Information technologies: facilities, PC hardware, software.
' Use of Applications: Operating systems, word processing, data processing, data management, spreadsheets, mathematical programs (Matlab, Derive etc.).
' Limit definition and graphical representation.
' Derivatives and integrals of algebraic functions.

Module Learning Outcomes

On successful completion of this module, students will be able to...

1 apply standard algebraic techniques, geometry and trigonometry when solving problems; describe the capabilities and limitations of computer systems and know how to use these systems when solving problems.

2 see how different mathematical techniques are needed to solve problems in engineering contexts; use appropriate PC systems, tools and applications when solving problems.

3 apply the skills and knowledge learnt to systematic problem solving; use these skills for data management, data presentation and other IT processes.

Learning, Teaching and Assessment Strategy

Concepts, principles & practical calculations are developed and practised in mixed lecture/tutorial classes, and are consolidated in tutorial group sessions. Written classroom tests will assess the development of the application of practical skills to the knowledge base of the strand, and the formal examinations will assess the wider learning outcomes expressed in the descriptor. In all cases feedback is provided. Practical skills will be developed in laboratory sessions. Cognitive and personal skills will be developed by problem solving and design exercises.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Examination - closed book	Examination - closed book	2 hours	70%	Yes
Referral	Examination - closed book	Supplementary	3 hours	100%	No
Summative	Classroom test	2 1.00 hour tests under exam conditions with	1 hour	30%	No

immediate
feedback and
reflection session

Legacy Code (if applicable)

ENG0300D

Reading List

To view Reading List, please go to **rebus:list**.