Module Title:	Engineering Mathematics 1
Language of Instruction:	English

Credits:	5

NFQ Level:	6

Module Delivered In	3 programme(s)

Teaching & Learning Strategies:	(a) A series of lectures will be delivered using whiteboard and data projector. (b) The Institute Managed Learning Environment will be used to interactively communicate with students e.g. on-line test, discussion forums, reference information (c) Mathematical software (e.g. Matlab) will be used by students to re-enforce the mathematical principles and practices

Module Aim:	To give the students the knowledge, competencies and skills necessary to support the mathematical procedures encountered in the other modules of this course.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Apply basic operations to vectors.
LO2	Recognise arithmetic and geometric series and find their sums.
LO3	Describe the statistical properties of data sets.
LO4	Apply basic laws of probability. Calculate mean and standard deviation for a simple discrete probability distribution.

Pre-requisite learning	
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*	
No recommendations listed	
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*	
Mathematics 1" or equivalent	

Module Content & Assessment

Indicative Content
(a) Vectors Addition and subtraction of vectors in two and three dimensions. Dot and cross product of vectors
(b) Sequences and Series Arithmetic and geometric progressions. Sum of a series
(c) Statistics and Probability Mean, Median, Mode and Standard Deviation of a sample. Laws of probability. Random variables. Introduction to a discrete probability distribution.

Assessment Breakdown	%
Continuous Assessment	40.00%
End of Module Formal Examination	60.00%

Continuous Assessment				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Case Studies	n/a	1,2,3,4	40.00	n/a

No Project

No Practical

End of Module Formal Examination				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	n/a	1,2,3,4	60.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time

Workload Type	Frequency	Average Weekly Learner Workload
Lecture	Every Week	3.00
Independent Learning	Every Week	4.00
	Total Hours	7.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_EEBEE_B	[Bachelor of Engineering (Honours) in Biomedical Electronics](#)	3	Mandatory
CW_EESYS_B	[Bachelor of Engineering (Honours) in Electronic Engineering](#)	3	Mandatory
CW_EEBEE_D	[Bachelor of Engineering in Biomedical Electronics](#)	3	Mandatory

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CW_EESYS_B	[Bachelor of Engineering (Honours) in Electronic Engineering](#)	3	Mandatory
CW_EEBEE_D	[Bachelor of Engineering in Biomedical Electronics](#)	3	Mandatory