

MATH C3604: Engineering Mathematics 3

Module Title:			Engineering Mathematics 3			
Language of Instruction:		n:	English			
Credits: 5		5				
		-				
NFQ Level:		7				
Module Deli	vered In		<u>3 programme(s)</u>			
Teaching & Learning Strategies:			(a) A series of lectures will be delivered using whiteboard and data projector. (b) The Institute Virtual Learning Environment (VLE) will be used to interactively communicate with students e.g. on-line test, discussion forums, reference information			
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 Ou	itcomes					
On successfu	ul completio	n of th	nis module the learner should be able to:			
LO1	.O1 Solve Second order differential equations.					
LO2	Solve initia	al valu	e problems through the application of Laplace transforms.			
LO3	LO3 Analyse periodic waveforms through the application of Fourier series.					
Pre-requisite	Pre-requisite learning					
<i>Module Recommendations</i> This is prior learning (or a practical skill) that is recommended before enrolment in this module.						
No recomme	ndations list	ted				
Incompatible	e Modules odules whic	h hav	e learning outcomes that are too similar to the learning outcomes of this module.			
No incompatible modules listed						
Co-requisite Modules						
No Co-requis	No Co-requisite modules listed					
Requiremen This is prior l	Requirements This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.					
Mathematics	Mathematics 2 or equivalent					



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Module Content & Assessment

Indicative Content

A.Differential Equations

Solve second order homogeneous and non-homogeneous differential equations.

B.Fourier Series

Recognise periodic functions. Even and odd functions. Be able to obtain the Fourier Series of a periodic function. Derive half-range sine and cosine series

C.Laplace Transforms Find the Laplace Transform of standard functions. Find inverse Laplace Transforms. Find the Laplace Transform of derivatives and use Laplace Transforms to solve IVP's.

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

Continuous Assessment

Assessment	Assessment Description	Outcome	% of	Assessment
Type		addressed	total	Date
Examination	A number of CA's will be evenly spaced throughout the Semester to allow timely feedback to be provided".	1,2,3	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	Each student will sit a formal written examination at the end of the module for which 60% will be awarded.	1,2,3	60.00	End-of- Semester

Continuous Assessment					
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Examination	A number of CA's will be evenly spaced throughout the Semester to allow timely feedback to be provided".	1,2,3	40.00	n/a	

No Project

No Practical

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



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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	5	Mandatory
CW_EESYS_B	Bachelor of Engineering (Honours) in Electronic Engineering	5	Mandatory
CW_EEBEE_D	Bachelor of Engineering in Biomedical Electronics	5	Mandatory