

MATH C2608: Engineering Mathematics 4

Module Title:			Engineering Mathematics 4				
Language of Instruction:		n:	English				
Credits: 5		5					
		-					
NFQ Level:		6					
Module Delivered In			8 programme(s)				
Teaching & Learning Strategies:			A series of lectures will be delivered using whiteboard and data projector. The Institute Managed Learning Environment will be used to interactively communicate with students e.g. on-line test, discussion forums, reference information Mathematical software (e.g. Matlab, C) will be used by students to re-enforce the mathematical principles and practices				
Module Aim:			To give the student sufficient mathematical knowledge to support the other modules of the course and provide a solid foundation for further studies				
Learning Ou	itcomes						
On successfu	ul completio	n of th	his module the learner should be able to:				
LO1	Find the ir	Find the indefinite and definite integrals and apply integration in solving engineering-type problems					
LO2	Perform o	rform operations on matrices and use matrices to solve systems of linear equations					
LO3	Apply vect	pply vector operations in an engineering context					
LO4	Solve integration and matrix problems using computer programmes						
Pre-requisite	e learning						
<i>Module Recommendations</i> This is prior learning (or a practical skill) that is recommended before enrolment in this module.							
No recomme	ndations lis	ted					
<i>Incompatible Modules</i> 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-requis	No Co-requisite modules listed						
Requirements This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.							
No requirements listed							



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Module Content & Assessment

Indicative Content							
Integration Find the indefinite and definite integrals and apply integration in solving engineering-type problems							
Matrices Perform operations on matrices and use matrices to solve systems of linear equations							
Vectors Vectors in two and three dimensions Dot and cross products Engineering problems with vectors							
Computer Application Solve engineering problems, plot graphs and perform mathematical computations through software packages such as Python and/or Matlab							
Assessment Breakdown				%			
Continuous Assessment					70.00%		
Practical				30.00%			
Continuous Asse	ssment						
Assessment Type	Assessr	nent Description	Outcome addressed		% of total	Assessment Date	
Examination	Each stu program	ident will be obliged to complete a continuous assessment	1,2,3		70.00	n/a	
No Project							
Practical							
Assessment Type		Assessment Description	Outcome addressed		% of total	Assessment Date	
Practical/Skills Evaluation		Use of software techniques to solve mathematical problems	4		30.00	n/a	
No End of Module Formal Examination							

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	12 Weeks per Stage	3.00			
Practicals	12 Weeks per Stage	2.00			
Independent Learning Time	15 Weeks per Stage	4.33			
	Total Hours	125.00			

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_EEAER_B	Bachelor of Engineering (Honours) in Aerospace Engineering	4	Mandatory
CW_EFARG_B	Bachelor of Engineering (Honours) in Agricultural Systems Engineering	4	Mandatory
CW_EMMEC_B	Bachelor of Engineering (Honours) in Mechanical Engineering	4	Mandatory
CW_EEROB_B	Bachelor of Engineering (Honours) in Robotics and Automated Systems	4	Mandatory
CW_EFARG_D	Bachelor of Engineering in Agricultural Systems Engineering	4	Mandatory
CW_EEACS_D	Bachelor of Engineering in Aircraft Systems	4	Mandatory
CW_EEMEC_D	Bachelor of Engineering in Mechanical Engineering	4	Mandatory
CW_EEROO_D	Bachelor of Engineering in Robotics and Automated Systems	4	Mandatory