MATH H1502: Mathematics

Module Title:	Mathematics
Language of Instruction:	English

Credits:	10

NFQ Level:	6

Module Delivered In	No Programmes

Teaching & Learning Strategies:	Lectures Tutorials Private study

Module Aim:	The aims of the module are: (1) to equip students with the necessary mathematical skills to participate fully on the programme; (2) to extend students' mathematical knowledge in preparation for further studies.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Use algebraic methods to solve and manipulate equations including using calculus to locate minimum and maximum values of algebraic functions.
LO2	Plot and interpret linear and non linear functions and extract information from the plots.
LO3	Calculate the area and volume of regular shapes and to use algebra and calculus to determine parameters and to derive units for parameters from expressions.
LO4	Evaluate distances, angles and areas for right angled and non right angled triangles and apply trigonometric relationships to the solution of right angled triangles.
LO5	Produce statistical graphs including histograms and ogives and calculate central tendency, dispersion and quartile values.

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.*
No requirements listed

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Module Content & Assessment

Indicative Content
(1) Computation (15 hours lectures) (a) Logs & Indices (b) Transposition of formulae (c) Units, Derived units (d) Area & volume (e) Approximate areas & Volume.
(2) Equations (20 hours lectures) (a) Graphical representation & solution to lines. (b) Quadratic and cubic equations. (c) Numerical solutions to the quadratic and cubic equation.
(3) Trigonometry (20 hours lectures) (a) Solution of right angled triangles (b) Unit circle (c) Radian measure (d) Solving triangle with the sin & cosine rules (e) Area of triangles.
(4) Calculus (20 hours lectures) (a) Differentiation of the more common engineering functions using the log tables (b) Max/Min values (c) Points of inflection.
(5) Statistics (15 hours lectures) (a) Graphing data (b) Notation (c) Calculation of central tendency & dispersion.

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*
Other	Continuous Assessment	1,2,3,4,5	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	No Description	1,2,3,4,5	60.00	End-of-Semester

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	30 Weeks per Stage	3.00
Estimated Learner Hours	30 Weeks per Stage	5.33
	Total Hours	250.00