

MATH S7Z02: Mathematics 2

Module Details	
Module Code:	MATH S7Z02
Full Title:	Mathematics 2 APPROVED
Valid From::	Semester 1 - 2018/19 (September 2018)
Language of Instruction:	
Duration:	1 Semester
Credits::	5
Module Owner::	Arjan van Rossum
Departments:	Unknown
Module Description:	This subject builds upon the Mathematics 1 module, further preparing the mathematical ground for other courses on the Science course.

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	Module Learning Outcome Description
MLO1	Use trigonometry and graphing skills in a Science environment
MLO2	Apply the principles and techniques of calculus to the solution of practical applications in scientific context
MLO3	Demonstrate an exponential or logarithmic relationship between sets of data in experimental situations
Pre-requisite learning	
Module Recommendations <i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named DkIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i>	
No recommendations listed	

Module Indicative Content
Trigonometry Degree and radian angle measurements and conversions, trigonometric functions and their inverses Solving triangles and trigonometric functions
Logarithmic graphing Justification of experimental laws Use of log/log and log/linear graph paper
Differentiation Basic differentiation of functions, product, quotient and chain rules. Rates of change, slopes, velocity/ acceleration, maximum and minimum points, worded max/min problems, curve sketching
Integration Basic integration. Initial value problems, first order chemical reactions, radioactive decay, population growth and decay, half life. First and second order differential equations

Module Assessment	
Assessment Breakdown	%
Course Work	40.00%
Final Examination	60.00%

Module Special Regulation

Assessments

Full Time On Campus			
Course Work			
Assessment Type	Class Test	% of Total Mark	40
Marks Out Of	0	Pass Mark	0
Timing	n/a	Learning Outcome	
Duration in minutes	0		
Assessment Description 1. Completion of tutorial quiz sheets based on the course content; 2. Two one-hour mid-semester examinations.			
No Project			
No Practical			
Final Examination			
Assessment Type	Formal Exam	% of Total Mark	60
Marks Out Of	0	Pass Mark	0
Timing	End-of-Semester	Learning Outcome	1,2,3
Duration in minutes	0		
Assessment Description End-of-Semester Final Examination			

Module Workload

Workload: Full Time On Campus

<i>Workload Type</i>	<i>Contact Type</i>	<i>Workload Description</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>	<i>Hours</i>
Lecture	Contact	No Description	Every Week	3.00	3
Tutorial	Contact	No Description	Every Week	1.00	1
Independent Study	Non Contact	No Description	Every Week	5.00	5
				Total Weekly Learner Workload	9.00
				Total Weekly Contact Hours	4.00

This module has no Part Time On Campus workload.

Module Resources

Recommended Book Resources

John Bird. (2012), Engineering Mathematics, 6th. Routledge.
Croft, A. & Davison, R. (2010), Foundation Mathematics, 5th. Pearson (Prentice Hall).
Davies, H.G. & Hicks, G.A. (1998), Mathematics for Scientific and Technical Students, Longman. & Technical student.

This module does not have any article/paper resources

Other Resources

Website, <http://mathworld.wolfram.com/>.
Website, www.khanacademy.org.
Website, www.science.org.au.
Link, Library Catalogue,
<http://tinyurl.com/oabw8ai>
Link, Library Catalogue,
<http://tinyurl.com/m7hmgbd>
Link, Library Catalogue,
<http://tinyurl.com/nn6benu>