APPROVED

MATH S7Z01: Mathematics 1

Module Details

Module Code:	MATH S7Z01
Full Title:	Mathematics 1 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:	The aim of this course is to familiarise the student with this basic concepts, techniques and operations of mathematics of particular relevance to a Science programme.

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	**Module Learning Outcome Description**
MLO1	Use numerical, algebraic and graphing skills in a Science environment;
MLO2	Deal competently with experimental data and the mathematics encountered in other Science areas.

Pre-requisite learning
Module Recommendations   *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).*
No recommendations listed

Module Indicative Content	
Numbers	
Dealing with numbers in an experimental environment, discrete and continuous data experimental error, round off error. Scientific notation, calculation and use of calculator.	
Measurements	
Units of measurement and conversions. Areas and volumes of 2-D and 3-D shapes, cross sectional areas.	
Algebra	
Solution of linear, quadratic and simultaneous equations. Indices. Logs, laws of logs and pH, Henderson-Hasselbalch application. Transposition of formulae.	
Functions and their graphs	
Graphing linear, quadratic, cubic, log and exponential functions. Using graphs to solve equations, the idea of increasing and decreasing functions.	
Experimental Laws	
Plotting experimental data. Linear regression and correlation.	

Module Assessment

Assessment Breakdown	%
Course Work	40.00%
Final Examination	60.00%

Module Special Regulation

Assessments

Full Time On Campus

Course Work			
Assessment Type	Continuous Assessment	**% of Total Mark**	40
Marks Out Of	0	**Pass Mark**	0
Timing	Every Week	**Learning Outcome**	1,2
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
Duration in minutes	0		
Assessment Description			
End-of-Semester Final Examination			

Module Workload

Workload: Full Time On Campus

Workload Type	Contact Type	Workload Description	Frequency	Average Weekly Learner Workload	Hours
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	4.00	4
				Total Weekly Learner Workload	8.00
				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, www.khanacademy.com.

Website, http://mathworld.wolfram.com/.

Website, www.science.org.au.

Link, Library Catalogue,
http://tinyurl.com/na9podc

Link, Library Catalogue,
http://tinyurl.com/lw4wm7m

Link, Library Catalogue,
http://tinyurl.com/pb2wwk8