Faculty	Natural Sciences			
Home Department	Mathematics and Applied Mathematics			
Module Topic	Mathematics 112			
Generic Module Name	Mathematics 112			
Alpha-numeric Code	**APM112**			
NQF Level	5			
NQF Credit Value	15			
Duration	Semester			
Proposed semester to be offered	First Semester			
Programmes in which the module will be offered	BSc (Mathematical & Statistical Sciences) (3227,3031); BSc (Physical Science) (3233,3120)			
Year level	1			
Main Outcomes	On completion of this module students should be able to: • Use notation and discuss basic concepts in the contexts of logic, set theory and elementary number theory. • Analyse arguments in the above contexts in order to distinguish between logically valid and logically invalid arguments. • Compare and contrast various methods of proof in the above contexts. Construct counter examples in the above contexts. • Structure logically valid arguments in the above contexts.			
Main Content	• The logic of Compound statements. • The logic of Quantitative Statements. • Elementary Number Theory and Methods of Proof. • Sequences and Mathematical Induction. • Set theory.			
Pre-requisite modules	None			
Co-requisite modules	MAT105 or MAT104 or MAM152			
Prohibited module Combination	None			
Breakdown of Learning Time	**Hours**	**Timetable Requirement per week**		**Other teaching modes that does not require time-table**
Contact with lecturer / tutor:	55	*Lectures p.w.*	4	
Assignments & tasks:	10	*Practicals p.w.*		
Practicals:	0	*Tutorials p.w.*	2	
Tutorials:	25			
Tests & Examinations:	15			
Selfstudy:	45			
Other:				
Total Learning Time	**150**			
Methods of Student Assessment	Continuous Assessment (CA): 50% Final Assessment (FA): 50%			
Assessment Module type	Continuous and Final Assessment (CFA)			