

Faculty	Natural Sciences		
Home Department	Department of Mathematics and Applied Mathematics		
Module Topic	Mathematics for Economic and Management Science		
Generic Module Name	Mathematics 126/127		
Alpha-numeric Code	MAM126/MAM127		
NQF Level	5		
NQF Credit Value	10		
Duration	Semester		
Proposed semester to be offered	First Semester - MAM126 Second Semester - MAM 127		
Programmes in which the module will be offered	BCom (1008, 1101) BCom (Accounting) (1021, 1753) BCom (Financial Accounting) (1175)		
Year level	1		
Main outcomes:	<p>On completion of this module students should be able to:</p> <ul style="list-style-type: none"> • Mathematical and computational skills useful in the Economics and Management environment. • Skills to read mathematical text in Economics • Skills to write mathematical text in Economics • Skills to interpret correctly literature pertaining to Managerial Sciences that require knowledge of mathematics. 		
Main content:	<p>Mathematics of Finance</p> <ol style="list-style-type: none"> 1. Simple & Compound interest <ul style="list-style-type: none"> • Definitions and Applications • Nominal and Effective rates • Continuous compounding • Discounting 2. Simple and Complex Annuities <ul style="list-style-type: none"> • Present & Future Values • Simple and Compound depreciation & amortization • Sinking funds with deduction 3. Introduction to Differential Calculus <ul style="list-style-type: none"> • Functional notation; functions and limits • Graphs of polynomials, exponential functions • Break-even & Market equilibrium • Definition of derivative • Rules of differentiation for polynomial, exponential and Logarithmic functions 4. Applications of Differentiation <ul style="list-style-type: none"> • Increasing & decreasing functions • Relative maxima & minima • Maximization applied to commercial type problems 5. Introduction to Integral Calculus <ul style="list-style-type: none"> • Definite & indefinite integral • Integration of polynomial, exponential & logarithmic functions • Integration by substitution & parts • Applications to Managerial Sciences • Consumers' and suppliers' surplus • Business Application 		
Pre-requisite modules	QSC131 or QSC132 or QSA131		
Co-requisite modules	None		
Prohibited module Combination	None		
Breakdown of Learning	Hours	Timetable	Other teaching

Time		Requirement per week		modes that does not require time-table
<i>Contact with lecturer / tutor:</i>	39	<i>Lectures p.w.</i>	3	
<i>Assignments & tasks:</i>	6	<i>Practicals p.w.</i>	0	
<i>Practicals:</i>	0	<i>Tutorials p.w.</i>	1	
<i>Assessments::</i>	10			
<i>Selfstudy:</i>	32			
<i>Other:</i>	13			
Total Learning Time	100			
Methods of Student Assessment	Continuous Assessment (CA): 100% Final Assessment (FA): 0%			
Assessment Module type	Continuous Assessment (CA)			