Module Title:	Business Mathematics
Language of Instruction:	English

Credits:	10

NFQ Level:	6

Module Delivered In	No Programmes

Teaching & Learning Strategies:	Classes with be practical in focus, using example questions to illustrate key points and theories. Students will be expected to complete work-sheets in their independent learning time to re-enforce understanding of key issues

Module Aim:	To give a thorough grounding in the mathematics required for the successful understanding and solution of business problems.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Apply mathematical skills to solve numerical problems in the area of business
LO2	Solve mathematical problems and manipulate formula, as appropriate
LO3	Appraise capital investment projects on the basis of Net Present Value and Internal Rate of Return
LO4	Apply statistical skills to solve business problems and model, analyse, interpret and present business data, using the principles of statistics.
LO5	Display key date in structured business scenarios, create graphs, tables and charts to highlight relevant numerical business information

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

Module Content & Assessment

Indicative Content

Mathematics of Finance
• Simple and compound interest • Present and Future Value • Discounting • Arithmetic series and their application to regular investments • Annuities and their Present Value • Straight line and reducing balance methods of depreciation

Capital Investment Appraisal
• Net Present Value of investments • Internal Rate of Return • Straight line and reducing balance methods of depreciation

Equations
• Linear and quadratic equations and their graphs • Solving simultaneous equations • Simultaneous inequalities • Graphing inequalities • Graphical solution of Linear Programming problems

Calculus
• Differentiation and Applications/Rules of Differentiation • Maximum and Minimum points • Graphing Economic Functions • Business Applications: • Marginal Cost, Marginal Revenue, Profit Maximisation

Probability
• Introduction to probability • Normal Distribution

Statistics
• Introduction • Purpose of Statistics

Measures of Central Tendency and Dispersion
• Mean, Mode and Median • Standard Deviation, Range • Coefficient of Variation • Application and Interpretation in Quality Control

Correlation and Regression
Correlation and Regression

Time Series and Forecasting
Time Series and Forecasting

Index Numbers
Index Numbers

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
Short Answer Questions	Class Test: Short questions to reinforce learning	1,2,3	10.00	n/a
Examination	Class Test: Class test to reinforce learning	1,2,3	10.00	n/a
Other	Assignment: Application of business mathematics to real-life situation	4,5	20.00	n/a

No Project

No Practical

End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	Final Exam: Final end of year	1,2,3,5	60.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time

Workload Type	Frequency	Average Weekly Learner Workload
Lecture	30 Weeks per Stage	3.00
Independent Learning	30 Weeks per Stage	4.00
	Total Hours	210.00

Workload: Part Time

Workload Type	Frequency	Average Weekly Learner Workload
Lecture	Every Week	1.50
Independent Learning Time	Every Week	3.00
	Total Hours	4.50