

Background

Planning to study for an MBA but unsure of your basic maths skills? All MBA programs require some maths, particularly on quantitative subjects such as Accounting, Economics and Finance.

In this mathematics course, you will learn the fundamental business math skills needed to succeed in your MBA study. These math skills will also give you an edge in the workplace enabling you to apply greater analytical skill to your decision making.

You will learn how to evaluate and manipulate the types of formulae that appear in an accounting syllabus, how to perform the calculus required to solve optimization problems in economics and how to apply the concept of geometric series to solving finance-related problems such as calculating compound interest payments.

This course assumes no prior knowledge of business maths, concepts are explained clearly and regular activities give you the opportunity to practice your skills and improve your confidence.

Course Outline

- How to evaluate, manipulate and graph the types of linear equations that appear throughout an MBA syllabus
- How to evaluate and manipulate the complex relationships that appear (for example, those that are represented as quadratic or exponential equations)
- How calculus is used to solve optimization problems, such as finding the quantity of sales that maximizes a firm's profit
- How tools relating to mathematical series and sequences are adopted on an MBA program to calculate concepts such as net present value and compound interest

Assessment

In order to pass this course, you must complete the assessment.

Assessment Matrix	
100%	End of course assessment

Monitoring your progress

There are a number of ways you can track your learning progress on this course. Firstly, you can ensure that you complete the 'Practice activities' which are designed to help you hone your skills and put the new knowledge you have gained into practice and as such are not assessed. These are embedded within the course content so you can easily access supporting material and guidance if you need to check your learning.

Each topic also concludes with a 'Test your knowledge' quiz. Like the 'Practice activities', these quizzes are a great opportunity for you to judge how effectively you have grasped new ideas and concepts. They are not assessed, and you can complete them as many times as you like. Once you submit your answers, you will also be able to access some helpful feedback to demonstrate how correct answers should be derived.

The Progress tab provides a very easy way for you to see how you are performing on the course.

Finally, you will have the chance to complete the course by undertaking the 'End of course assessment'. This assessment will contain similar questions to those found in the 'Test your knowledge' quizzes. You

have a two-hour time limit and two attempts within this time to reach the pass mark of 70% and successfully pass the course. We strongly recommend that you complete all the 'Practice activities' and 'Test your knowledge' quizzes before embarking on the 'End of course assessment'. This will ensure that you feel sufficiently prepared!

Course structureTopic 1 - Working with simple relationships

- 1.1 Simple mathematical relationships
- 1.2 Linear relationships
- 1.3 Rearranging linear equations
- 1.4 Graphs
- 1.5 The form
- 1.6 Simultaneous equations
- 1.7 Inequalities
- 1.8 Linear relationships with more than two variables
- 1.9 On your MBA: Calculating the 'Yield to Maturity' of a Bond
- 1.10 Test your knowledge: Simple relationships

Topic 2 - Introducing more complex relationships

- 2.1 What are more complex relationships?
- 2.2 Using brackets
- 2.3 Powers
- 2.4 Roots
- 2.5 Non-linear equations
- 2.6 Quadratic equations
- 2.7 Exponential equations
- 2.8 Rearranging complex equations
- 2.9 Test your knowledge: Complex relationships

Topic 3 - Solving optimisation problems

- 3.1 Introducing calculus
- 3.2 Tangents
- 3.3 Differentiation
- 3.4 Differentiation of functions with multiple terms
- 3.5 Using differentiation to find the gradient of a tangent
- 3.6 Derivative functions and marginal functions
- 3.7 Optimisation
- 3.8 Using optimisation on your MBA
- 3.9 On your MBA: Calculus
- 3.10 Test your knowledge: Differentiation and optimisation

Topic 4 - Working with sequences of numbers

- 4.1 Introducing sequences
- 4.2 Percentages
- 4.3 Indices (indexes)
- 4.4 Sequences and geometric sequences
- 4.5 Compound interest
- 4.6 Discounting
- 4.7 The sum of a geometric sequence
- 4.8 The sum of an infinite geometric sequence
- 4.9 On your MBA: Dividend and discount model for geometric series
- 4.10 Test your knowledge: Sequences and financial mathematics