K,COURSE OUTLINE

1. General specifications

Module Title: Business Mathematics	
Level: IDB	**Credits** 15

Overview of the module:

It is essential to have a basic knowledge of a wide range of mathematical techniques in order to use business data effectively. This module introduces a range of mathematical concepts and techniques. Students will be able to develop their analytical skills in order to make informed business decisions based on a wide range of data sources. The module also develops a student's ability to present data in a meaningful and systematic way.

2. Module Delivery

Contents

CLASS SUBJECT
1 Basic Number • Directed number • Order of operation (BODMAS) • Rounding to a given number of significant figures • Fractions
2 Indices and Standard Form • Powers and indices • Standard form • Manipulating surds
3 Manipulating algebraic expressions and solving equations • Simplifying algebraic expressions • Solving linear equations • Changing the subject of an equation or formula
4 Linear graphs and simultaneous equations • Graphs of the form y=mx + c • Finding the equation of a line • Solving simultaneous equations graphically • Solving simultaneous equations algebraically
5 Ratio and proportion • Using ratio • Proportion and best value • Conversion of foreign currencies • Direct and inverse proportion

6 Probability • Mutually exclusive and independent events • Calculating probabilities • Conditional probability
7 Representing data • Types of data • Representing data - Frequency diagrams - Pie charts - Histograms - Calculating mean, median and mode
8 Measures of dispersion • Range • Standard deviation • Cumulative frequency and the Interquartile range
9 Percentages • Increasing and decreasing by percentages • Percentage change • Simple and compound interest • Reverse percentages
10 Non-linear graphs • Drawing and recognising non-linear graphs • Solving quadratic equations graphically • Transformations of graphs
11 Quadratic equations • Solving quadratic equations by: • Factorising • Completing the square • Using the quadratic formula
12 Time series • Time series graphs • Moving averages • Forecasting

Indicative reading

Oakshott (2009), Essential Quantitative Methods: for Business, Management and Finance, 4th Edition, Palgrave McMillan

ISBN-10: 0230218180

ISBN-13: 978-0230218185

3. Module Assessment

Module Learning Outcomes

On completion of this module the student should be able to:

Knowledge and understanding

- Use a range of mathematical and statistical techniques and concepts
- Describe and summarise data
- Apply the laws of probability to a range of scenarios
- Use data for the purposes of forecasting

Assessment Methods:

Number, Type and Weighting of Element

100% Exam

*Admission to the final assessment is subject to completion of all coursework assigned by Esei tutor for each module.