Analytical Techniques for Business and IT B

First year module

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The role of this module is to develop skills that students will require elsewhere on the programme and in business. The module consists of the following:

Semester 1 is designed provide a solid mathematical foundation. It includes numeracy, algebra, exponents, linear equations, polynomial functions, differential calculus; slope, and maxima and minima, functions of more than one variable, exponential functions, and financial mathematics.

Semester 2 is an introduction to Statistics: Descriptive statistics and frequency distributions. Discrete probability distributions; Continuous distributions: the Normal and exponential distribution. Interval estimation. Simple hypothesis testing. Correlation and simple regression.

Also included is the use of relevant Excel functions and routines.

Learning Outcomes

By the end of the module students should be able to:

Calculate percentages and ratios

Solve exponent problems in financial mathematics

Differentiate functions and find maxima and minima

Solve problems with linear equations and inequalities

Calculate summarising statistics and plot appropriate graphs and charts.

Use and interpret discrete and continuous probability distributions

Apply the basic principles of hypothesis testing

Carry out simple correlation and regression analysis

Assessment

- 3 hr examination, coursework assignments