**Quantitative Techniques**

**MATH1001 / DIT / School of Accounting and Finance**

**Module Content**

***Presentation of Data:*** Construction of frequency distribution tables, stem and leaf display, pie chart, bar chart, histogram, frequency polygon, cumulative frequency curve, time series graphs, Lorenz curve.

***Measures of Central Tendency:*** Mode, median, mean. Measures of Dispersion. Range, mean absolute deviation, variance, standard deviation, semi-interquartile range, the five number summary.

***Correlation and Regression:*** Scattergraph, least squares regression line, Pearson product moment correlation coefficient, coefficient of determination.

***Index Numbers:*** An expenditure index, Laspeyres & Paasche index, Consumer Price index. Deflating a time series with the Consumer Price index. Time Series Analysis. Components of time series, trend, seasonal variation, deseasonalisation, simple forecasting.

***Linear Programming:*** The formulation of linear programming problems. The graphical solution to two-variable linear programming problems including shadow prices, sensitivity analysis, alternative optima and degeneracy.

***Differentiation:*** Derivative as a Rate of change or slope, turning points. Cost revenue and profit functions, maximum profit and break-even points.

***Mathematics of Finance:*** Compound interest, annuities, loans, sinking funds, appreciation and depreciation, project analysis using net present value and internal rate of return.

***Book: Business Mathematics and Statistics A. Francis***