

SUBJECT	:	Quantitative Methods for Business AMA210	
LEVEL	:	2	
CREDIT	:	3	
MODE OF STUDY	:	Lectures	28 hours
		Tutorial	14 hours
PRE-REQUISITES	:	None	

OBJECTIVES

- (a) To enable the students to understand the role and value of quantitative methods in decision making.
- (b) To introduce the students to elementary quantitative methods and their applications in business.
- (c) To enable the students to develop quantitative methods and use them for the solution of business problems.

INDICATIVE CONTENTS

Data in Business

Types of data; sources of data, primary and secondary. Methods of data collection; their advantages and disadvantages. Presentation of Business data: tabulations; diagrammatic representations; graphical presentation. Descriptive measures; location, spread, skewness.

The Importance of Probability

Counting. Axioms of Probability, Conditional Probability and Bayes' Theorem. Discrete probability distributions: Binomial & Poisson. Continuous probability distribution: Normal. Expected Values and Variances of Linear Functions and Sets of Random Variables. Applications of Probability in Business and Finance.

Using Samples

The need for sampling. Sample selection methods. Sampling distributions: means, proportions and differences. Inferences for populations drawn from sample statistics. Estimation.

Checking a Theory: Hypothesis Testing

Hypothesis testing and business performance. Establishing a hypothesis. Testing hypotheses on means, proportions and their differences. Tests using categorical data.

Correlation and Regression

Relationships amongst business data. Pearson's correlation co-efficient, the rank correlation co-efficient and their interpretations. Line fitting and an introduction to simple regression.

Financial Mathematics

The fundamentals of compound interest. Discounting and Present Value.

Elementary Optimisation

The concept of the limit and differentiation. Derivatives as the slopes of lines, and the application of elementary calculus. Maximisation and minimisation.

ASSESSMENT

Continuous Assessment	50%
Examination	<u>50%</u>
	<u>100%</u>

To pass this subject, students are required to obtain Grade D or above in both the Continuous Assessment and the Examination components.

INDICATIVE READING

Levin, R.I. and D.S. Rubin, *Statistics for Management*, 7th Edition, Prentice Hall, 1998.

Keller, G. and B. Warrack, *Statistics for Management and Economics*, 6th Edition, Thomson Learning, 2004.

Ian Jacques, *Mathematics for Economics and Business*, 4th Edition, Financial Times, Prentice Hall, 2003.