

**MODULE: QUANTITATIVE METHODS**

**Code:** BAIH-1-1-09  
**Unit Title:** Quantitative Methods  
**Semester:** A1  
**Stage:** 1  
**Theme:** Personal Development Skills  
**Number of Credits:** 4 semester credits / 6 quarter units

**INTRODUCTION**

This module is designed to provide students with the necessary skills to analyse and manipulate numerical business information as a basis for informed decision making.

**AIMS**

- To demonstrate the widespread applicability of mathematics and statistics as a basis for decision making in a range of business disciplines (e.g. finance, production, marketing, etc.)
- To provide students with the core mathematical skills necessary to support their accurate manipulation and interpretation of numerical data
- To present students with a range of mathematical skills relevant to the business and to the hospitality industry in particular
- To develop the students' confidence in the application of mathematics so that they can readily apply such analysis to support them in their analysis of business information.

**LEARNING OUTCOMES**

On completion of this module successful students will be able to:

- Recognise the importance of mathematics and its analytical procedures to the proper functioning of business
- Demonstrate essential analytical skills to support an accurate and rigorous approach to decision making.
- Demonstrate the necessary skills to correctly analyse a range of business related numerical information as a basis for informed decision making.

**SYLLABUS**

Revision:

- Usefulness of simple data analysis (value, ratios, trends)
- Basis statistical terms (mean, mode, median)
- Relevance of Graphs: Cost functions, break even analysis
- Basic Trigonometry
- Presenting Data Graphically
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### Financial Applications:

- Investments: Applying Interest
- Net Present Values / Internal Rates of Return
- Handling annuities: loans / mortgages

### Production

- Calculus: maximising profit / minimising losses
- Economic order quantity
- Safety Stocks and Reorder Levels
- Graphics: Resource Constraints
- Linear Programming: Yield Management

### Handling Uncertainty.

- Simple decision trees, drawing tree diagrams
- Identification of optimal decisions using expected values
- The value of reducing uncertainty

### Forecasting: Spotting Trends

- Graphical representations
- Correlation and regression
- Application of least squares linear regression equation
- Time series analysis
- Exponential smoothing

### Statistics

- Frequency curves / distributions
- The normal curve
- The Binomial distribution
- The Poisson distribution
- Applications in Business

### Statistical Inferences

- The Standard Error
- One and two tailed tests
- The Chi squared test
- Applications in Business

## **WORKLOAD**

Contact:	60 hours
Directed Learning:	15 hours
Independent Learning:	45 hours

**Total** **120 hours**