1. **Aims and Objectives**

1.1 **Aims**

The aim of this course is to introduce the statistical concepts and methods used in solving real business problems. Specifically, the curriculum of this course is designed to prepare the students to have the necessary statistical training which is essential to the other courses in the programme. The fundamental ideas of various statistical procedures are presented without resorting to detailed mathematical derivations or proofs. Selected examples from business literature are used extensively to demonstrate the application of these statistical methods to modern business environment.

1.2 **Objectives**

On completion of the course, students will be able to:

1.2.1 form an appreciation of the relevance of statistics to real business problems;

1.2.2 develop the ability to use various statistical techniques in business decision;

1.2.3 develop the ability to use statistical packages.
2. **Syllabus**

2.1 **Statistical Inference on Means and Variances**

2.1.1 **One Population Case : Estimation**
Point estimation and interval estimation of population mean, proportion and variance.

2.1.2 **One Population Case : Hypothesis Testing**
Elements of a statistical test. Type I and Type II error. Test on population mean, proportion, and variance. p-Value. Power of a test. Relation between hypothesis testing and confidence interval estimation.

2.1.3 **Comparison of Two Populations**
Inference concerning two population means, proportions and variances.

2.1.4 **Non-parametric Methods**
The sign test. The Wilcoxon test and the Mann-Whitney test.

2.1.5 **Chi-square Test**
Goodness of fit test. Normality tests.

2.1.6 **Discrete Data Analysis**
Frequency distribution. Contingency Tables.

2.2 **Simple Linear Regression**

3. **Teaching Methods**
The course devotes a considerable amount of time on the basic concepts and statistical inference. The purpose is to provide students possess basic knowledge which is essential to business decision. The course employs the "teaching by examples and cases" approach. Explanations of statistical concepts and methodologies are based on and motivated by the use of real data. Worked examples, which are extracted from various fields of business are used to demonstrate how to apply these statistical techniques to problems encountered in practice. This practical orientation is designed to help the students to relate statistics to real-life problems and to develop a pattern of thought that will persist during their careers in the business world.
Consistent with the trend that business executives should be "literate" in information technology, statistical software packages will be used to illustrate the role of statistics in information systems. Students are trained to be familiar with statistical packages in solving problems in the coursework.

4. Assessment

Examination : 60% (one 2-hour examination)
Coursework : 40%

The coursework is based on homework, tests and the performance of students in the seminars throughout the course. A final examination will be given at the end of the course.

5. Booklist

5.1 Essential Reading


5.2 Supplementary Readings

Elliott R J, Learning SAS in the Computer Lab, Duxbury, 1995