

STATISTICS 2501
FURTHER STATISTICS FOR BUSINESS AND ARTS STUDENTS

Statistics 2501 is a continuation of Statistics 2500. In it, more advanced statistical techniques will be introduced to students. Examples are generally drawn from the economics field or commerce field, and data are analyzed with the support of a computer package such as MINITAB.

Consider how one might evaluate the difference in the proportions of failure of two types of manufacturing methods or determine whether there is any significant difference in two forms of advertising. These problems can be considered as *two sample problems* where parametric or nonparametric techniques can be used. The generalization from two sample problems to a k sample problems leads to statistical techniques for analysis of variance (ANOVA).

This course also introduces students to techniques of multiple linear regression where we analyze relationships between one dependent variable and a set of independent variables and build a model for prediction. For example, we would like to analyze the relationship between demand (dependent variable) and price and interest rate (independent variables) using available data. We might want to forecast the demand at a certain price and interest rate based on a certain data set. Finally, techniques to analyze data collected in time, *time series data*, will also be introduced.

Text. *Statistics for Business and Economics* by J.T. McClave, P. G. Benson and T. Sinich.

Marks. It is typical to assign 50% of the final grade to a final exam, 20% to a midterm, 20% to weekly quizzes and 10% to weekly assignments (including minitab assignments).

Calendar description. 2501 Further Statistics for Business and Arts Students covers power calculation and sample size determination, analysis of variance, multiple regression, nonparametric statistics, index numbers, time series analysis, introduction to sampling techniques.

Prerequisite: Statistics 2500 or the former 2510.

Note: Credit can be obtained for only one of Statistics 2501, 2560, the former 2511, Psychology 2911, 2950, and the former 2901. Statistical computer package will be used in the laboratory.

Offered. Fall