

**Statistics 760 INTRODUCTION TO MULTIVARIATE ANALYSIS  
METHODS OF APPLIED MULTIVARIATE ANALYSIS**

*Prereq.* This course will be accessible to Masters and Ph. D. students in Statistics. We will not be using the material from Stat 710 and that will not be the prerequisite. Instead, Statistics 310, or 610 and some exposure to manipulations of matrices is required

*Text.* **Applied Multivariate Statistical Analysis** (2002) , Fifth Edition.  
Richard Johnson and Dean Wichern, Prentice Hall

(1) The numerous data sets from the book will be available on the computer system. Assignments will include the use of SAS programs.

(2) Students will do a small project with own data set.

*Final Grade will be based on*

Homework assignments ( students will maintain a folder)

Short written report and oral presentation of small project.

**Topics.**

Inferences About Vector Means

Multivariate Methods for Monitoring Quality

Multivariate Multiple Regression

Principal Components

Canonical Correlations

Factor Analysis

Classification and Discrimination - Two groups / Several groups

Clustering Techniques

Graphical Methods of Presenting and Exploring Multivariate Data