



# STAT 802

## Multivariate Analysis

Fall 2007  
Day Course

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Students requiring accommodations as a result of disability, must contact the Centre for Students with Disabilities 604-291-3112 or csdo@sfu.ca

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Instructor: [Dr. Joan Hu](#)

### **Textbook:**

*Applied Multivariate Statistical Analysis, Sixth Ed.* by R.A. Johnson and D.W. Wichern. Publisher Prentice Hall.

### **Computer Software:**

You will need to be familiar with some Statistical Computing Package. R, S-Plus, SAS, JMP, and MINITAB are the popular ones.

### **Calendar Description:**

An advanced course in multivariate analysis. Factor analysis, discriminant analysis, principal components, canonical correlations. Multivariate regression and analysis of variance.

### **Outline:**

Aimed at a non mathematical audience, this course discusses procedures that are most commonly used in the summary of statistical surveys and in the interpretation of experimental data. Either STAT 101 or STAT 201 is a satisfactory prerequisite for STAT 302.

1. Overview of Multivariate Analysis
2. Statistical Distance and Eigen-Analysis
3. Geometric Aspects of Multivariate Data
4. Multivariate Data Analysis
5. The Multivariate Normal Distribution
6. Inference for Multivariate Means
7. Multivariate Linear Regression
8. Analysis of Covariance Structure
9. Classification and Grouping
10. Multidimensional Scaling

### **Grading Scheme:**

Midterm 1 (written test), Midterm 2 (project)-60%

Final Exam-40%

The grading is subject to change.

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*Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Please pay careful attention to the options discussed in class at the beginning of the semester. Students are reminded that Academic Honesty is a cornerstone of the acquisition of knowledge. Scholarly integrity is required of all members of the University. Please consult the General Guidelines of the calendar for more details.*

Revised June 26, 2007