Hunter College of The City University of New York

STAT 718 Analysis of Variance 3 hrs, 3 cr.

Prerequisite: C or better in STAT 614, or an equivalent introductory statistics course. Familiarity with Windows computing environment encouraged.

Course Objectives and Content ("HMT" = Hoaglin, Mosteller & Tukey handouts)

- Week 1 Classic Linear models; Exploratory Analysis of Variance (MHT 1, 2)
- Week 2 Graphical Methods; Types of Factors and Layouts (MHT 3,4)
- Week 3 Simple Decomposition of Tables (MHT 5)
- Week 4 Multidimensional Designs; Search Methods (MHT 6)
- Week 5 Testing; Variance Components (MHT 7, 9)
- Week 6 Robust Methods and the Square Combining Table
- Week 7 Lab Session 1
- Week 8 Fixed vs. Random Effects (MHT 10)
- Week 9 Assessment of Effects; Model Reformulation (MHT 11)
- Week 10 Repeated Measures
- Week 11 Multiple Comparisons (Armitage paper)
- Week 12 Complex Analyses (Green and Tukey paper)
- Week 13 Partitioning Single Degrees of Freedom (Tukey, Daniels paper)
- Week 14 Lab Session 2
- Week 15 Case Studies

Required Readings

<u>Levine's Guide to SPSS for Analysis of Variance</u> by Sanford L. Braver, David P. MacKinnon, and Melanie Page (2003).

Recommended Readings

Hoaglin, Mosteller, and Tukey, *Fundamentals of Exploratory Analysis of Variance* (1991); additional journal literature.

Method of Evaluation

Grades will be assigned according to the following distribution:

Type of Assignment	% of Final Grade
5 Take-Home Projects	100%