ST 552
Linear Models and Variance Components
Spring 2008
Syllabus

Text: John Monahan, *A Primer on Linear Models*
*** Available as coursepack from Sir Speedy ***
*** to be published later this spring by CRC/Chapman & Hall ***

Tentative Schedule

	Weeks
Examples of the general linear model	1-2
Review of Linear Algebra	1-2
Generalized Inverses and Solving Equations	3
Projections and Solutions to Normal Eqns	4
Linear Least Squares	5
	Quiz
Estimability	6
Gauss-Markov Theorem	7
Generalized Least Squares	8
	Quiz
Multivariate normal distribution	9
Central and non-, χ^2 and F	10
Distribution of quadratic forms	10
General Linear Hypothesis	11
	Quiz
Simultaneous confidence intervals	12
Random effects vs fixed	13
Distributional results for variance components	14
Asymptotics	15

Homework will be assigned from time to time. They will constitute part of your grade. Quizzes and Final Exam will be closed book exams. The prerequisites for this course are MA 405 (Linear Algebra), ST 521, and the co-requisite is ST 522.

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