Math 4813/5813
Applied Regression Analysis
Spring 2009

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Text Applied Linear Statistical Models 5th edition
By Neter, Wasserman, Kutner

The objective of this class is to study and analyze regression models. In this study, familiarity with hypothesis testing, confidence intervals, scatter plots, correlation coefficients, and the coefficient of determination will be necessary. After completion of this course, the student will be able to analyze and develop their own regression models.

Material to be Covered

Chapters 1, 2 Simple Linear regression, residuals, interpreting coefficients b0and b1 , confidence intervals for coefficients, using Minitab, least squares method to fit the model, assumptions about Y and error, testing the coefficient b1 Exam 1 Feb 2

Chapter 3, 4(4.1-4.3) diagnostics for the predictor, diagnostics for residuals, tests involving residuals, remedial measures, transformations, joint estimation of b0 and b1, simultaneous prediction intervals Exam 2 Feb 27

Chapters 6, 7, 8 Multiple regression models, fitted values and residuals, estimation of mean response and prediction of new observation, extra sum of squares, tests of regression coefficients, coefficient of partial determination, multicollinearity and its effects, interaction regression models, qualitative predictors Exam 3 Mar 27

Chapters 9, 10 Overview of model building, model validation, studentized deleted residuals, DFFits, Cook's distance, DFBetas, multicollinearity diagnostics, Exam 4 Apr 24

An optional project for students will consist of a problem from the project section after each chapter. These problems are related to one data set, thus they are to be combined into one project that will be due Apr 24

One exam grade will be replaced by the project grade if desired.

	Undergraduates		or
Grade in Course	**3 exams 80%**		**2 exams**
	Final 20%		**and Project 80%**
			Final 20%

Final Exam Friday May 1 11-1 p.m.