

STAT 408/ 608 - Least Squares and Regression Analysis Prerequisites: STAT 211, 601 or 641

Text: A Modern Approach to Regression with R (Springer Texts in Statistics) (Hardcover) ISBN-10: 0387096078 ISBN-13: 978-0387096070

Case Study: Store24 (Harvard Business School Case Study 9-103-058) by Susan Kulp, V.G. Narayanan, Dennis Campbell. This will be furnished to the students.

Computing: Data sets will be analyzed using the SAS (v 9.3) (& Enterprise Guide 4.3) or the R software package, which is available free at <http://www.r-project.org/>. R-scripts which perform every calculation in the class notes are available on the course website. You may use either software. I will use SAS.

Topics:

1. Introduction
2. Introduction to Matrices
3. Simple linear regression
4. Diagnostics and transformations for simple linear regression
5. Weighted least squares
6. Multiple linear regression
7. Diagnostics and transformations for multiple linear regression
8. Variable selection
9. Logistic regression

Grades:

Homework 10%

Exam 1 40% - Feb. 23rd, 2012

Final Exam 50% May xx,2012 xx will be given out by the Registrar

Make-up: Make Up Exams are not given. If you miss an exam for a University Excused Absence, your next exam will count as two exams.

Homework:

Homework will be done on Webassign. Instructions of logging onto Webassign will be provided in the Dostat website. Please adequately explain your reasoning when answering homework problems. You may discuss the homework problems with other students, but you should write up your solutions independently or provide answers independently. Do not copy other students' solutions or answers as plagiarism is a serious example of academic misconduct. (For details, see <http://compliance.tamu.edu/CodeConduct.aspx>.)

NOTE: WEBASSIGN and DOSTAT may be replaced by different software.

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