STA 6208 – Regression Analysis
Spring 2004

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Office Hours: M 12:00-1:00, W 3:00-4:00, Th 9:30-10:30
Text: Applied Regression Analysis, 2nd Ed. by Rawlings, Pantula, Dickey

Course Description
This course provides a survey of theory and applications of linear regression analysis. A full treatment of
the linear regression model is covered, focusing on results from mathematical statistics making use of matrix
algebra. Computational methods will be used to analyze datasets based on “canned procedures” as well as
a matrix language.

Tentative Topics
Simple Linear Regression (Chapter 1)
Brief Introduction to Matrix Algebra (Chapter 2.1–2.6)
Multiple Regression in Matrix Terms (Chapter 3)
Analysis of Variance and Quadratic Forms (Chapter 4)
Case Study (Chapter 5)
Model Building; Selection of Independent Variables (Chapter 7)
Polynomial Models (Chapter 8)
Models with Class Variables (Chapter 9.6, 9.7)
Problem Areas and Diagnostics (Chapters 10, 11)
Transformations (Chapter 12)
Intro to Nonlinear Models (Chapter 15.1-15.3)
Random Coefficient Regression Models (Chapter 18.3)

Tests and Grading
• Exam 1 – February 6 – 25%
• Exam 2 – March 22 – 25%
• Final Exam – April 29 (12:30-2:30) – 30%
• Homework — 20%

Notes:
• Exams will be closed note. I will provide any needed formulas (if necessary).
• No make–up exams will be given. Do not plan on leaving town prior to the Final Exam!!!
• Homework assignments will be given on an approximately weekly basis, and will be due either 2 or 3
class periods later. No late assignments will be accepted. Any handouts will be given out one time
only.
• Use e-mail sparingly. It is virtually impossible to answer technical statistical questions in e-mail
messages. E-mail is not a substitute for showing up for office hours. Please do not send any messages
with attachments.