Linear Models and Applications (Math 6358)
Fall 2018
Class# 22204

Instructor: Binod Manandhar
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Class meets:
CBB, Room# 214
Day/Time: Mon and Wed, 4:00 pm - 5:30 pm

Prerequisites:
Two years of Calculus, MATH 6308 (Advanced Linear Algebra I), and MATH 6383 (Probability
Statistics), or consent of instructor

Office Hours:
Mon and Tue, 2:30 pm - 3:30 pm. Or by appointment.

Text Book:
Applied Linear Statistical Models 5th Edition
by Michael Kutner, Christopher Nachtsheim, John Neter, William Li
978-0073108742; Publisher: McGraw-Hill/Irwin

Courses:
This graduate level course is designed for students who have been exposed to basic probability
and statistics classes. It will cover simple linear regression: Linear regression, Prediction, Inferences,
Diagnostics, Matrix approach to simple linear regression (Chapter 1 - 5). Multiple linear regression,
Regression models for qualitative and quantitative predictors, Building the regression model, Step-
wise methods (Chapter 6 - 9), Model diagnostics (Chapter 10), Generalized linear models and some
recent advances.

Grading:
Final grades will be computed based on number of assignments (due Wednesday in class), a
midterm, a project and a final exam. We will use R in this course. You need to submit attached R
code with your assignment. If you have trouble with accessing data or running codes, you should
contact me. No make up for exams are given.

Homework - 35%
Project - 15%
Mid-term - 25%
Final Exam - 25%

Project:
There will be a group (4 to 5 students) project. In this project students have to explain the source
and the data they have used, develop a multiple linear regression model, explain the model selection
procedure and provide required interpretation.

R software: R is a open source statistical analysis software, and can be downloaded for free at https://www.r-
project.org/

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ing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps)
by calling 713-743-5454 during and after business hours for routine appointments or if you or someone
you know is in crisis. No appointment is necessary for the Let’s Talk program, a drop-in consultation
service at convenient locations and hours around campus. http://www.uh.edu/caps/outreach/lets_talk.html