

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

Instructor	Binod Manandhar Office : PGH 214 Email : binod@math.uh.edu
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/
UH CAPS Statement	Counseling and Psychological Services (CAPS) can help students who are having difficulties managing 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