

The University of Chicago
Booth School of Business

BUS 41100
Applied Regression Analysis
Winter 2012

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Syllabus

Course Information

BUS 41100 is a course about regression, a powerful and widely used data analysis technique. Students will learn how to use regression to analyze a variety of complex real world problems. Numerous empirical examples from finance, marketing, economics, politics, sports, etc are used to illustrate applications of the material covered. Emphasis will be placed on analysis of actual datasets. Topics covered include: (i) simple linear regression; (ii) multiple regression; (iii) linear prediction; (iv) residual diagnostics; (v) time series (autocorrelation functions, auto-regression) (vi) logistic regression. The class will use both R and Excel as software.

Course Website

<http://faculty.chicagogsb.edu/carlos.carvalho/teaching/>

Texts/Notes

There is no course pack or required textbook for the class. All lecture notes and course materials will be available in the class website. Some students find having a supplemental text useful for studying. I recommend the textbook *Applied Regression Analysis*, by Terry Dielman. In fact, **I strongly suggest reading the chapters covering the class material.**

Prerequisites

The prerequisite for this course is BUS 41000 or its equivalent including the following concepts: Random variables, normal and t distributions, linear combination of random variables, hypothesis testing, confidence intervals and sampling distribution of the mean. I will include a short summary of the topics above in the course website. I will also present a quick review of the listed items whenever necessary. As an alternative, Chapter 2 of Dielman gives a good review of the necessary material.

Evaluation

Grades will be determined by a midterm exam given on the 7th week (50%) and a take-home final exam (50%). The midterm exam will be closed-book/closed-notes. You may bring one letter size “cheat sheet” (you may use both sides). The “cheat sheet” is individual and you’ll have to turn it in with your exam. The take-home final exam is individual and will be due on Thursday/Friday of final exams week. There will be optional (practice) homework assignments throughout the quarter. Solutions for the homework problems will be provided.

It is expected that students will complete all exams for the course. **No request for rescheduling of an exam will be entertained on (or after) the date of the exam.** Only extreme personal problems are a reason for rescheduling of an exam.

Honor Code

Students are required to adhere to the standards of conduct in the *GSB Honor Code* and *GSB Standards of Scholarship*. The *GSB Honor Code* requires students to sign the following GSB Honor Code Pledge, *“I (we) pledge my (our) honor that I have not violated the Honor Code during this examination or assignment”*, on all class assignments and exams.

Request for Regrade

Clerical errors will be corrected without hassle. Other regrade requests must be submitted in writing within one week (7 days) of the exam’s return. Keep in mind that the entire exam will be subject to regrading.

Review Sessions

There will be a review session for the midterm, in class, on week 6.

Office Hours/Contact Information

There will be no official office hours, but I am happy to meet with anyone that wants to schedule an appointment. The best way to contact me is via email. You can also contact the TA Jesse Windle via email (jesse.windle@gmail.com). R questions should be directed to Jesse first.

Class Handouts

You are responsible for bringing the relevant section of the lecture notes to every lecture. All course materials are available on the web.