

SYLLABUS FOR STAT-UB.0003
STERN SCHOOL OF BUSINESS
NEW YORK UNIVERSITY

Course: STAT-UB.0003 - Regression and Forecasting Models

Semester: Spring 2015;

Class Hours: Mon, Wed 9am

Class Room:

Instructor: Kevin Brabazon

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Office Hours: Tues and Thurs 10:30 – 11yllabus:30am and by appointment

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Course Objectives

The objective of this course is to introduce students to the powerful statistical techniques of simple and multiple linear regression. These techniques are widely used in business and other fields for modeling relationship between variables of interest.

Texts

1. Statistics for Business and Economics, 12th edition, by McClave, Benson, and Sincich (MBS), Prentice Hall, 2013. Chapters 11 and 12 in the MBS custom version [3rd edition] will be covered. In the standard version of the 12th edition, these readings are chapters 13 and 14.

The text (MBS), Students Minitab Software and Student's Solutions Manual are sold as one package at the NYU Main Bookstore, though you may choose to use copies of relevant materials from previous classes.

2. *Pamphlets*, by topic [see class schedule below], which are published by Prof. Gary Simon and are available on his web site at: www.stern.nyu.edu/~gsimon. You will find the pamphlets under the link: "Click here for pamphlets for courses B01.1305 and C22.0103"

3. Lecture Notes/slides (will be posted on NYU Classes).

Computer Software and Data Sets

Minitab 17 will be used as statistical software for the course. All relevant data files from MBS are available on the CD with your textbook or at <http://www.stern.nyu.edu/~gsimon/statdata>. Data sets will also be posted on NYU Classes. The document "A Quick Introduction to Minitab" and "Guide to Minitab Regression" will be distributed in class.

Minitab is available from several sources: you can use it free of charge from Stern apps [it is provided by Citrix], or you can buy it with the course pack sold at the bookstore. The only meaningful difference between the Student Minitab version sold at the bookstore and Minitab 17 supported by Stern is the memory restriction of the former. For essentially all of our work Student Minitab will have sufficient memory.

IMPORTANT NOTE ON MINITAB: MINITAB ON THE CD WILL NOT RUN ON A MAC OR ANY TYPE OF APPLE COMPUTER. YOU ARE BETTER OFF USING THE FREE VERSION AVAILABLE ON STERN APPS. IT WILL RUN ON A MAC BECAUSE IT IS PROVIDED BY A SOFTWARE PROVIDER ONLINE

Course topics

This course will not use calculus to any appreciable degree, though it certainly exploits algebra manipulations.

The course will cover chapters 10-11 of the textbook and additional readings from the pamphlets written by Prof. Gary Simon

The important topics are these:

- Simple (one-predictor) linear regression, including the model assumptions, estimation, hypothesis tests, predictions, and prediction intervals (chapter 10)
- Multiple regression, including the model assumptions, estimation, hypothesis tests, predictions, prediction intervals, variable selection, model building, residual analysis, and the checking of assumptions (chapter 11)

Grading Information

Grades will be based on a combination of scores for homework, in-class examinations, and the final exam. The breakdown by item is as follows:

Midterm Exam	35%%
Final exam	40%
Homework	20%
Attendance	5%