STAT-UB.0103.003
Statistics for Business Control
Regression and Forecasting Models

Spring 2018

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Classroom: Tisch – 201

Class Hours: MWF, 11:00AM-12:15PM
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Additional Information:

Mid-term Exam: Friday, March 23
Final Exam Week: May 9 – May 15. Exam day TBA from 11 – 12:15
Special Dates:

- First day of the semester: Monday, January 22
- Classes will not meet on: February 19 nor during the Spring Break, which is March 12-March 18
- Review for Mid-term exam: March 19
- Mid-term exam: March 23
- Reviews for the final exam: May 2 and May 4
- Last class meets on May 7

Course Description and Learning Goals:

The analytical approach to problem solving is a process that is based on a mathematical model.

The purpose of the course is to train students to:

1. Formulate analytical problems,
2. Apply statistical techniques for analyzing data, and
3. Interpret output from statistical analyses.

All concepts introduced in the course will be illustrated by addressing fundamental questions that will be discussed in your core courses at Stern. A side benefit of the course is that it will also serve as a primer to the undergraduate Stern curriculum. The course stresses applications with the focus being the analysis of data to formulate optimal business decisions as well as address important societal issues. Technical aspects underlying the methods will be presented intuitively with the goal of making students critical readers of quantitative arguments that appear in research reports.

Course Pre-Requisites: V63.0121

Required Course Materials:

The course material consists of these three items:

- The text is ***Statistics for Business and Economics***, 12th edition, by McClave, Benson, and Sincich (3rd custom Edition for New York University). The publisher is Prentice-Hall. The required text may also be available in the secondary book market. If you search the secondary book market, be aware that the authors also have a different book with a very similar title.
- ***Student's Solutions Manual*, (optional)** by Nancy Boudreau. This has worked-through solutions to the odd-numbered problems**.**
- **Minitab 18** is the recommended computer program for producing the statistical analyses assigned in class. A version of Minitab 18 is available through Citrix at the Stern website. Instructions to access it will be provided in class. Further, it can also be rented for a fixed time period (months) at http://www.onthehub.com/minitab.

The program *Minitab* and all the course data files will also be available through Citrix. All course data files will be available from the Stern Web site.

The spreadsheet program Excel has a number of statistical problems. I recommend that you *avoid* this program for statistical applications. While Excel's statistical work is generally correct, there are a number of annoying errors, and the program lacks the flexibility of a full-feature statistics package.

There will be many instances where simple calculations for which a hand-held calculator will be helpful. Minimum calculator features that you will need are memory and square roots. Calculators on cell phones are not allowed during exams. In fact, cell phones are not allowed to be brought into rooms during exams!

This course will not use calculus to any appreciable degree, though it certainly exploits algebraic manipulations. These manipulations will be frequent and occasionally messy.

Schedule of Topics

TOPICS	**READINGS**	**APPROXIMATE # OF SESSIONS**
Introduction	Chapter 1	2
Summary statistics	Chapter 2	2
Introduction to probability	Chapter 3	5
Discrete probability functions	Chapter 4: Binomial, Hypergeometric, Poisson	2
Continuous probability function	Chapter 4: Normal	1
Multivariate normal (portfolio theory)	Chapter 2 section 9 and Notes	2
Sampling distribution (central limit theorem)	Chapter 5	1
Estimation	Chapter 6	2
Hypothesis testing	Chapter 7	1
Simple linear regression	Chapter 11	7
Multiple regression	Chapter 12	12
Forecasting	Notes	2

Assessment Components:

Grading

Homework assignments will be given each week and will be due the following week for review. Assignments will be submitted online before the beginning of class on Monday, but bring your written work to class. Late home works will not be accepted. **ALL** assignments must be completed. Students are expected to come to class having read all assigned readings. I believe that the best way to learn concepts is to be able to apply them in classroom discussions.

The final grade is computed as follows:

Category	Percentage
Assignments and Participation	10%
Mid-term Examination	40%
Final Examination	50%

Late Assignments and Make-up Policy:

At the discretion of the professor, late assignments will either not be accepted or will incur a grade penalty unless due to documented serious illness or family emergency. Professors will make exceptions for religious observance or civic obligation only when the assignment cannot reasonably be completed prior to the due date and the student makes arrangements for late submission with the professor in advance.

Professional Responsibilities for This Course:

Attendance

Class attendance is essential to your success in this course and is part of your grade. An excused absence can only be granted in cases of serious illness, grave family emergencies, or religious observance and must be documented. Job interviews and incompatible travel plans are considered unexcused absences. Where possible, please notify me in advance of an excused absence.

Participation

In-class contribution is a significant part of your grade and an important part of our shared learning experience. Your active participation helps me to evaluate your overall performance. You can excel in this area if you come to class on time and contribute to the course by:

- Providing strong evidence of having thought through the material.
- Advancing the discussion by contributing insightful comments and questions.
- Listening attentively in class.
- Demonstrating interest in your peers' comments, questions, and presentations.
- Giving constructive feedback to your peers when appropriate.

Classroom Norms

- Arrive to class on time and stay to the end of the class period. Chronically arriving late or leaving class early is unprofessional and disruptive to the entire class. Repeated tardiness will have an impact on your grade.
- Turn off all electronic devices prior to the start of class. Laptops, cell phones and other electronic devices are a distraction to everyone.

Stern Policies

General Behavior
The School expects that students will conduct themselves with respect and professionalism toward faculty, students, and others present in class and will follow the rules laid down by the instructor for classroom behavior. Students who fail to do so may be asked to leave the classroom.

Collaboration on Graded Assignments
Students may not work together on graded assignment unless the instructor gives express permission.

Academic Integrity
Integrity is critical to the learning process and to all that we do here at NYU Stern. As members of our community, all students agree to abide by the NYU Stern Student Code of Conduct, which includes a commitment to:

- Exercise integrity in all aspects of one's academic work including, but not limited to, the preparation and completion of exams, papers and all other course requirements by not engaging in any method or means that provides an unfair advantage.
- Clearly acknowledge the work and efforts of others when submitting written work as one's own. Ideas, data, direct quotations (which should be designated with quotation marks), paraphrasing, creative expression, or any other incorporation of the work of others should be fully referenced.
- Refrain from behaving in ways that knowingly support, assist, or in any way attempt to enable another person to engage in any violation of the Code of Conduct. Our support also includes reporting any observed violations of this Code of Conduct or other School and University policies that are deemed to adversely affect the NYU Stern community.

The entire Stern Student Code of Conduct applies to all students enrolled in Stern courses and can be found here:

Undergraduate College: http://www.stern.nyu.edu/uc/codeofconduct Graduate Programs: http://w4.stern.nyu.edu/studentactivities/involved.cfm?doc_id=102505

Recording of Classes
Your class may be recorded for educational purposes

Students with Disabilities
If you have a qualified disability and will require academic accommodation of any kind during this course, you must notify me at the beginning of the course and provide a letter from the Moses Center for

Students with Disabilities (CSD, 998-4980, www.nyu.edu/csd) verifying your registration and outlining the accommodations they recommend. If you will need to take an exam at the CSD, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be guaranteed accommodation.

Re-Grading

The process of assigning grades is intended to be one of unbiased evaluation. Students are encouraged to respect the integrity and authority of the professor's grading system and are discouraged from pursuing arbitrary challenges to it.

If you believe an inadvertent error has been made in the grading of an individual assignment or in assessing an overall course grade, a request to have the grade re-evaluated may be submitted. You must submit such requests in writing to me within 7 days of receiving the grade, including a brief written statement of why you believe that an error in grading has been made. Reevaluation of a question may result in a directional change in the grade.