Syllabus
ECO 4000 - Statistical Analysis for Economics and Finance

Instructor: Chuxin Liu

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Office: 10-240B

Office Hours: Sat 2-3pm (by appointment)

COURSE PREREQUISITES: STA 2000

COURSE DESCRIPTION

The course provides an introduction to the econometric techniques useful to conduct empirical analysis in economics and finance. The purpose of the course is to enable the student to master the concepts and to be able to complete independently and critically an empirical project.

COURSE LEARNING GOALS

Firms, governmental or non-governmental agencies, regulators, experts, etc., all rely more and more on data analysis to assess situations and take decisions. Statistical analysis and, in particular, econometrics offers powerful tools that are relatively easy to use but that need to be used properly. Interpreting correctly results from a statistical analysis is also paramount to the discipline.

By the end of the semester students will be able to:

- Handle data in a professional manner
- Know how to use different statistical programs and know which one is the most appropriate for the type of study.
- Recognize the main pitfalls encountered in statistical analysis.
- Develop knowledge of the basic principles of probability and statistics
- Develop understanding of the Linear Regression Model (LRM) and its use in modeling the relationship between economic and financial variables
- Be able to estimate and test hypothesis about the parameters of the LRM
- Be able to conduct an empirical investigation using econometric techniques
- Be able to present the results of a statistical analysis.

BBA PROGRAM-LEVEL LEARNING GOALS

Quantitative Thinking Skills	Students will apply the quantitative thinking and the mathematical modeling process to solve real- world problems
Technological Skills	Students will be proficient in appropriate software to solve problems in statistics and quantitative modeling
Data Analysis	Students will be able to identify appropriate methodology, conduct analysis, and interpret results.
Communication Skills	Students will effectively communicate statistical and quantitative modeling methods for decision making to technical and non-technical audiences
Probabilistic Modeling Methods	Students will be able to model probabilistic problems dealing with decision analysis and simulation
Statistical Modeling	Students will be able to model statistical problem applied to business

COURSE MATERIALS

James Stock and Mark Watson, Introduction to Econometrics, 4th Edition, Pearson. We have a customized edition for the course which includes: a paperback copy of the book, access to myEconlab and e-book (including the possibility of reading the book on your iPad). You are required to buy the textbook, but you can apply for a refund from Pearson if you decide to drop the class within a week. Also, if you decide to drop this class you will be able to access myEconLab for a year from purchase (i.e., enroll in the myEconLab course of another instructor in the following semester).

Student Registration Instruction through Blackboard is attached.

DELIVERABLES/COURSE ASSIGNMENTS

There will be online quizzes, assignments, a midterm exam and a final exam.

- **Quizzes**
  - Online (via Blackboard or Pearson Mylab)
  - Around 5-7 quizzes during the semester
  - Students will have about 1 week to complete them (depending on the difficulty).
  - Deadlines to submit the answers of a quiz are **hard**: After the deadline students will not be able to submit their answers.
  - A student not having submitted his or her answers for a quiz will get a grade of 0 for that quiz. See the "Course policy" for further details.
  - Technical issues (internet connection broke down, the server didn't save my answers, etc.) will not be accepted as excuses. Students should not wait the last day to submit their quizzes.
  - 2 lowest quiz grades will be dropped.
- **Assignments**
  - Online (via Blackboard or Pearson Mylab)
  - Around 3-5 assignments during the semester
  - Students will have about 1--2 weeks to complete them (depending on the difficulty).
  - Deadlines to submit the answers of an assignment are **hard**: After the deadline students will not be able to submit their answers.
  - A student not having submitted his or her answers for an assignment will get a grade of 0 for that assignment. See the "Course policy" for further details.
  - Technical issues (internet connection broke down, the server didn't save my answers, etc.) will not be accepted as excuses. Students should not wait the last day to submit their assignments.
  - 1 lowest assignment grade will be dropped.
- **Midterm**
  - In class
  - Date: Around late-October. The exact date will be announced 3 weeks before.
  - A student not having attended the midterm will get a grade of 0. See the "Course policy" for further details.
- **Final Exam**
  - Date and venue decided by the school
  - A student not having attended the final will get a grade of 0. See the "Course policy" for further details.
  - The program for the exam cover all what has been seen during the semester (cumulative)

During an in-class exam, students are not allowed to have class notes, books, or any other material.

Calculators: Students are not allowed to use graphic calculators during exams (midterm and final exam). Calculators that are authorized: non-graphic Scientific, basic and non-graphic financial calculator.

GRADING POLICY

- Exam and total grades will be posted on Blackboard as early as possible (4--5 days after the exam at most).

- On Blackboard students will be able to see their numerical and letter grades for the course. On CUNY First students will only see their letter grades.
- Baruch College uses the following table to compute letter grades.

Letter	GPA	Grade (over 100)
A	4.0	93.0 – 100.00
A-	3.7	90.0 – 92.9
B+	3.3	87.1 – 89.9
B	3.0	83.0 – 87.0
B-	2.7	80.0 – 82.9
C+	2.3	77.1 – 79.9
C	2.0	73.0 – 77.0
C-	1.7	70.0 – 72.9
D+	1.3	67.1 – 69.9
D	1.0	60.0 – 67.0
F	0.0	Below 60

The course grade will be calculated this way:
- Quizzes: 25%
- Assignments: 20%
- Midterm: 25%
- Final Exam: 30%

The *recommendation* of the Zicklin School of Business is that the average and the median grade in a class should be B-. In any case grades will be curved down: if the average and/or the median grade of the class is *above* B- there will be no adjustment aimed at complying with the school's recommendation.

Curving:
Curving will be done after the final exams have been graded. That is, during the semester students will only be informed of their raw grades (i.e., not curved) for the assignments and the midterm.
Curving is likely to be non-linear: usually low grades are curved *slightly* more than high grades. Note that, due to the unpredictability of the grade distribution, it is not possible to commit to a specific grade formula.

Sometimes the grade of a student is very close to the threshold to obtain a better letter grade. Only students with good attendance record will be eligible for a bump to the next letter grade (see the Section "Attendance and Lateness Policy").

Extra Credit
No student will be able to improve his or her grade with an extra work or assignment. Grades will depend only on the assignments, the midterm exam and the final exam. This implies that other factors (graduation GPA, number of credits left to graduate, type of major or minor, etc.) will be ignored when calculating grades.

Grade change
Requests for grade lowering (e.g., from D+ to F) will be denied.

POLICY REGARDING MAKE-UP EXAMS AND DEADLINE EXTENSIONS

Students are responsible for checking the exam dates and avoid any conflict with other commitments. There will be Make-ups for exams except only if:
- The student has contacted the instructor *before* the exam and the instructor has agreed to organized a make-up exam (interviews or business trips do not constitute a valid excuse to have a makeup).
- There is a case of documented serious illness or civic obligation

There will not be make-up quiz or make-up assignment under any circumstance. No deadline extension will be provided, under any circumstance.

CLASSROOM MANAGEMENT POLICIES

Lectures are for academic purposes. Students are not supposed to use class time to chat, surf the Internet, etc.

BLACKBOARD WEBSITE

Please check Blackboard regularly since all documents, announcements and others will be posted there.

ATTENDANCE AND LATENESS POLICIES:

Attendance will be checked randomly. In general the attendance sheet will be circulated during the class and retrieved by the instructor at the end of the class. However, if arriving late becomes a habit the attendance sheet will be only available until 5 minutes after the class has started: Students arriving after will not be counted as present.

STUDENT DISABILITIES

We have a process at Baruch for determining whether a student who identifies as disabled is eligible for reasonable accommodations in order to complete the student's academic program. We strive to ensure that no student with a disability is discriminated against and that none is denied participation in College programs and activities for lack of reasonable accommodations.
Some people think that a disability has to be visible to be accommodated. This is not the case. There are many disabilities – diabetes, psychological illness, learning disabilities, AIDS, seizure disorders, arthritis, etc., – that require accommodations.
Examples of possible accommodations include additional testing time; adaptive equipment; and taping of classes. If you feel that you may need a reasonable accommodation based on a disability, please contact the staff at the Office of Disability Services, Newman Vertical Campus, Room 2-271, or by phone at (646) 312-4590.

ACADEMIC INTEGRITY

I fully support Baruch College's policy on Academic, which states, in part:

"Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism and collusion in dishonest acts undermine the college's educational mission and the students' personal and intellectual growth. Baruch students are expected to bear individual responsibility for their work, to learn the rules and definitions that underlie the practice of academic integrity, and to uphold its ideals. Ignorance of the rules is not an acceptable excuse for disobeying them. Any student who attempts to compromise or devalue the academic process will be sanctioned. " Additional information can be found at http://www.baruch.cuny.edu/academic/academic_honesty.html

Students caught cheating will receive a PEN grade and a report of suspected academic dishonesty will be sent to the Office of the Dean of Students.

ASURANCE OF LEARNING

BBA Common Educational Learning Goals	Significant Part of Course	Moderate Part of Course	Minimal Part of Course	Not Part of Course
Quantitative Thinking Skills	X			
Technological skills		X		
Communication skills		X		
Data Analysis	X			
Statistical Modeling		X		
Probabilistic Modeling Methods	X			

ASSIGNMENT MAPPING

Assignments	Course Learning Goals	BBA Common Learning Goals
Class Lectures and Participation	• Know how to use different statistical programs and know which one is the most appropriate for the type of study. • Recognize the main pitfalls encountered in statistical analysis. • Develop knowledge of the basic principles of probability and statistics • Develop understanding of the Linear Regression Model (LRM) and its use in modeling the relationship between economic and financial variables	Quantitative Thinking Skills Technological skills Statistical Modeling Probabilistic Modeling Methods
In-Class Exercises	• Handle data in a professional manner • Know how to use different statistical programs and know which one is the most appropriate for the type of study. • Recognize the main pitfalls encountered in statistical analysis. • Be able to estimate and test hypothesis about the parameters of the LRM • Be able to conduct an empirical investigation using econometric techniques • Be able to present the results of a statistical analysis.	Quantitative Thinking Skills Technological skills Communication skills Data Analysis Probabilistic Modeling Methods
Homework Assignments, Quizzes	• Handle data in a professional manner • Know how to use different statistical programs and know which one is the most appropriate for the type of study. • Recognize the main pitfalls encountered in statistical analysis. • Develop understanding of the Linear Regression Model (LRM) and its use in modeling the relationship between economic and financial variables • Be able to estimate and test hypothesis about the parameters of the LRM • Be able to conduct an empirical investigation using econometric techniques	Quantitative Thinking Skills Technological skills Data Analysis

SCHEDULE OF TOPICS (Tentative)

1. (Aug 31) Chapter 1: Economic Questions and Data
2. (Aug 31, Sep 7) Chapter 2: Review of Probability
3. (Sep 14, Sep 21) Chapter 3: Review of Statistics
4. (Sep 28, Oct 5) Chapter 4: Linear Regression with One Regressor
5. (Oct 12) Chapter 5: Linear Regression with One Regressor: Hypothesis Test and Confidence Interval

(TBD) Midterm Review
(TBD) Midterm

6. (Nov 2) Chapter 6: Linear Regression with Multiple Regressors
7. (Nov 9) Chapter 7: Linear Regression with Multiple Regressors: Hypothesis Test and Confidence Interval
8. (Nov 16) Chapter 8: Nonlinear Regression Functions
9. (Nov 23) Chapter 9: Assessing Studies Based on Multiple Regression

(Dec 7) Final Review
(TBD) Final

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Student Registration Instructions for Blackboard

First, enter your Blackboard course

1. Sign in to Blackboard and enter your Blackboard course.
2. Do one of the following:
   - » Select any Pearson link in the Content area.
   - » Select **Tools** in the left navigation and **Pearson's MyLab & Mastering** on the Tools page. Next, select any course link in the top area of the Pearson's MyLab & Mastering Tools page.

Next, get access to your Pearson course content

1. Enter your Pearson account **username** and **password** to **Link Accounts.**
   You have an account if you have ever used a MyLab or Mastering product.
   - » If you don't have a Pearson account, select **Create** and follow the instructions.
2. Select an access option:
   - » Enter the access code that came with your textbook or that you purchased separately from the bookstore.
   - » If available for your course,
     - • Buy access using a credit card or PayPal.
     - • Get temporary access.

   If you're taking another semester of a course, you skip this step.
3. From the You're Done page, select **Go to My Courses.**

Note: We recommend you always enter your MyLab Economics course through Blackboard.

Get your computer ready

For the best experience, check the system requirements for your product at
https://www.pearsonmylabandmastering.com/system-requirements/

Need help?

For help with MyLab Economics for Blackboard, go to
https://help.pearsoncmg.com/integration/cg/blackboard/student/en/content/get_started.htm