Class Policies and Syllabus: <u>Econometrics</u>

Luis Chancí

Please read the syllabus carefully. "I didn't read the syllabus" will not be acceptable for missing a midterm, skipping a homework, or similar.

Course	:	Econ 466
Section	:	B1
Days and Time	:	Wednesday and Friday, 8:05 am to 9:20 am.
Location	:	LN 2409
Term	:	Spring 2019
Instructor	:	**Luis D. Chancí A.**
Office and Hours	:	LT 1103, Friday 10:00am - 12:00am ; Wednesday morning (only by Appointment).
Email	:	*lchanci1@binghamton.edu* (Add "ECON466" in the subject line)
T.A.	:	Shi Zuo , (*Szuo1@binghamton.edu*)
		(Discussion Session B01, F 12:00pm to 1:00pm, LN 2409; O.H. TBA)

I. Overview.

Econometrics is the application of statistical methods to the estimation of economic relationships. Whereas economic theory courses discuss relationships among various economic variables, this course reveals how those relationships are discerned from data. Thus, the central goal of this course is to teach students the quantitative methods frequently used in the empirical analysis of economic phenomena.

We will start by reviewing some concepts from mathematics and statistics (i.e., probability, estimation, and hypothesis testing), with an eye toward using them later on in the course. Afterward, the idea is to spend some quality time with the workhorse of empirical economics: the linear regression model. This part includes OLS, hypothesis testing, collinearity, heteroscedasticity, and dummy variables. Finally, time-permitting, we will briefly introduce advanced techniques used in applied economic research, such as binary dependent variables, instrumental variables, panel data models, and regression discontinuity designs.

Although this course is suited to a lecture format, students are encouraged to ask questions and participate. If something I say is confusing, stop me and ask. Furthermore, to improve performance in class and on exams, students may have to watch short videos, cover readings, and answer some questions before coming to class. Thus, the work you do before class will allow us to free up some class time for a richer experience in the classroom where we will discuss more challenging aspects of the material in detail.

Finally, students will have the opportunities to gain "hands-on" experience with real data through homework assignments using R and Stata.

- **Pre-requisites.**

  The prerequisites are grades of C or better in ECON 160 and ECON 162, college level statistics, and calculus. If you have not had statistics and are not comfortable with high school algebra, then you should not take this course. Completion of ECON 360 and/or 362 recommended.

- **Textbooks.**

  <u>Required:</u>

  ⇒ **Wooldridge, J.** (2016). *Introductory Econometrics: A Modern Approach.* 6th Ed., South-Western Cengage Learning. (*Note:* earlier editions and all international editions printed in English are acceptable

  <u>Optional:</u>

  ⇒ **Stock, J., and M. Watson** (2010). *Introduction to econometrics.* 3rd Ed., Addison Wesley Longman. (*This book will not be used in class but provides a complementary*)

  ⇒ **Robert H., Elliot T., and D. Zimmerman** (2010 or 2013). *Probability and Statistical Inference.* 8th or 9th Ed., Pearson. (*Students without a strong mathematical or statistical background may find it useful*)

- **Other Materials.**

  ⇒ *Mycourses.* Chapter Powerpoint Slides, Course Announcements, Grades, Homework Assignments, and Other Supplementary Materials, will be posted on *Mycourses*. Thus,

    ✓ Be sure you have access to *Mycourses*.
    ✓ Be sure to check *Mycourses* daily.

  ⇒ *iClicker (App)* (To be confirmed). Students will have to cover some readings and watch some short videos before coming to class (I will post the material on *Mycourses* two days before the class). Thus, we may be using iClicker Reef Student Apps in the course, whereby, questions are posed, and students indicate which answer they think is correct. You can use your mobile devices or laptops to participate in iClicker Polling sessions, and only your mobile devices to participate in iClicker Quizzing sessions.

  ⇒ *Software*. The course statistical software are R and STATA. While R is a free software[1], Stata is not. However, Stata is available to Binghamton University students and you are not required to buy a license[2].

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[1] *RStudio* is a friendly platform.
[2] You may find the *virtual desktop BingView* useful.

II. Grading.

- **Composition and Important Dates.**

  You total score (**TS**) in this score is defined as follows:

  1. **Homework Assignments (20%).**
     There will be one problem set per week. Students are encouraged to work in groups on their problem sets, but each student must write up his or her answers separately. Please list the name(s) of those with whom you worked on your assignment.
     I will erase one or two (to be determined at the end) of your lowest or missing scores.

  2. **Attendance, Class Participation and Quizzes (10%).**
     Quizzes. There will be a short (e.g., design to be answered in less than ten minutes) quiz each week. I will erase one or two (to be determined at the end) of your lowest or missing scores.
     Attendance. Attendance is very important for understanding the material and for your success in ECON 466. Although attendance is not considered mandatory, we may be using iClicker Reef Polling. You will have to watch some short videos and/or cover some readings before coming to class. Then, I will pose some questions at the beginning of class and the responses are graded purely on involvement, not correctness. This will be considered as part of your participation and attendance.

     Additional Class Participation. Read the textbook or the PowerPoint slides (if them were posted) before class, and if you ask interesting questions or make relevant contributions to the discussion in class, you may not be required to take the quiz the next week (getting full score). I will let you know by the end of each week if you are exempt.

  3. **Midterm 1 (20%).**
     Wednesday, March 6 in class.

  4. **Midterm 2 (20%).**
     Wednesday, April 17 in class.

  5. **Final Exam (30%).**
     There is one cumulative final exam. All officially scheduled final exams will be available on February 8 at **BU Brain**. Check for conflicts.

- **Final Grade.**
  Letter grades will be assigned based on the total score (**TS**). No letter grades will be assigned for midterms.
  If the median **TS** is high (i.e., 80 or higher), scores above 90 get an A- or better (to be determined at the end), scores in the 80s a B- or better, scores in the 70s a C- or better and scores below 70 will be determine case-by-case. If the mean and median **TS** are in the 70's then I may consider use a curve.

- **Policies.**

  ⇒ There will be no make-up midterm exams, quizzes or homework assignments. No questions asked. Thus, before you decide to take this course, check that your personal schedule does not conflict with the midterm dates[3].

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[3]There are a few exceptions. For instance, academic, religious or athletic activities that are already scheduled at the beginning of the semester. You will have to send me an email during the FIRST WEEK of classes to review your case.

⇒ If you earn a score of 95% or higher in the **final exam**, then this score will also **replace the lower midterm grade**[4]. However, this is only valid if you have both midterm grades.

⇒ If you miss a midterm exam due to a legitimate reason (e.g., severe personal illness, or death in the family), the weight of the exam will be added to the weight of the Final (so the Final will count as 55% of your course grade). You need to follow up with proper documentation (e.g., a note from the doctor) to justify your absence. If you miss the exam without a legitimate documented reason, you will get a zero in the missed exam.

⇒ It is your responsibility to check that all your scores are correct. If you find an incorrect grade, bring the graded assignment or quiz to me or your TA and we will correct it.

⇒ Once you receive a homework, quiz or midterm with the grade, you **have up to two weeks to notify any mistake** in the grade or request a review. If you have not challenged a grade by the aforementioned deadline, you forfeit the right to challenge it.

⇒ If you show up for a midterm and receive the question sheet, then you need to finish the midterm and the grade counts.

⇒ Only simple handheld ordinary calculators are allowed at examinations. No cell phones, or similar devices with graphing and/or web browsing are allowed at exams. Please make sure you get a simple, standard calculator before the first midterm.

⇒ **Economics Department Policy Regarding Make-up Final Exams**

STUDENTS SHOULD NOT MAKE ANY TRAVEL PLANS to return home before the END of the exam period **Friday, May 17, 2019**, unless all exams, including make-up exams, have been verified. Those who book travel prior to the end of their scheduled exams will **NOT** be accommodated under any circumstances. The desire to leave early does not qualify you for an early make-up final exam - if you are not present to take the regular final or the scheduled make-up exam, then the missed final exam will count as an F towards your course grade.

ALL make up final exams in Economics will be given **Friday, May 17, from 8:00 AM to 10:00 AM**. All officially scheduled final exams for Spring 2019 will be linked from the BU Brain on February 8. YOU MUST CHECK FOR CONFLICTS. If a conflict exists you may request a make-up exam from the instructor of **ANY** of the conflicting courses. If you request a make-up exam for an economics course, a sign-up list and/or a google form to request the make-up exam will be available in class after the add/drop deadline – ask the instructor. Students **_MUST_** make their request for a make-up exam in economics **NO LATER THAN FRIDAY, April 12**.

It is **the student's responsibility** to learn <u>from the instructor</u> if the request has been approved. Only students who are approved may take a make up final exam. Students who have not requested a make-up exam in an economics course by April 12 will be required to resolve conflicting exams with the instructor in one of their other courses.

Make up exams are approved **ONLY** for the following conditions:
* Conflicts with the **OFFICIAL** final exam schedule such as:
   - Two exams at the exact same time or
   - More than two exams that **_begin_** within a 24 period.

* **DOCUMENTED** personal illness or family emergency.

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[4]I strongly recommend that you keep working hard until the end of the semester, and do not despair if your first midterm grade is low.

⇒ **Miscellaneous**

∗ Check with the department the deadline for a course withdrawal (with a "W") and the deadline for course-change-of-grade option. Harpur College rarely approves late drops, and I will not give you an 'Incomplete' if this happens. I will give 'Incomplete' only in cases of genuine emergencies (e.g., documented personal illness).

∗ **Disability-related Equal Access Accommodations** - Students needing accommodations to ensure their equitable access and participation in this course should notify the instructor with an Academic Accommodation Authorization from Binghamton University's Services for Students with Disabilities (SSD) office as soon as they're aware of their need for such arrangements. Please visit the SSD website (*www.binghamton.edu/ssd*) for more detailed information. The office is located in University Union, 119.

∗ **Academic Honesty** - I expect you to observe the Student Academic Honesty Code, so make sure that you are familiar with its provisions (it's in the University Bulletin). I will prosecute violations of the code, for example, cheating on exams, as specified in the code.

∗ **RESOURCES AND SUPPORT AVAILABLE TO STUDENTS** - If you are experiencing undue personal or academic stress at any time during the semester or need to talk with someone about a personal problem or situation, I encourage you to seek support as soon as possible. I am available to talk with you about stresses related to your work in my class. Additionally, I can assist you in reaching out to any one of a wide range of campus resources, including:
  · Dean of Students Office: 607-777-2804
  · Decker Student Health Services Center: 607-777-2221
  · University Police: On campus emergency, 911
  · University Counseling Center: 607-777-2772
  · Interpersonal Violence Prevention: 607-777-3062
  · Harpur Advising: 607-777-6305
  · Office of International Student & Scholar Services: 607-777-2510
  · Ombudsman:
    Main campus 607-777-2388 ; University Downtown Center office 607-777-2388
  · Services for Students with Disabilities: 607-777-2686 (Voice, TTY)

III. (Tentative) Course Outline.

Week	Session	Month	Day		Topic	Chapter (Readings)	Problem Sets	
							Posted	*Due**
1	1	January	W	23	Introduction	1 App A, B, C.	PS1	
	2		F	25	The Simple Regression Model	2		
2	3		W	30			PS2	PS1
	4	February	F	1				
3	5		W	6			PS3	PS2
	6		F	8	Mutiple Regression Analysis	3		
4	7		W	13			PS4	PS3
	8		F	15				
5	9		W	20	Inference	4	PS5	PS4
	10		F	22				
6	11		W	27	OLS Asymptotics	5		PS5
	12	March	F	1	Further Issues	6		
7	13		**W**	**6**	**Midterm I**			
	14		F	8	Dummy Variables	7		
8	15		W	13			PS6	
	16		F	15	Heteroskedasticity	8		
9	17		W	27			PS7	PS6
	18		F	29	Multicollinearity and other Data Problems	9		
10	19	April	W	3			PS8	PS7
	20		F	5	Time Series Data	10		
11	21		W	10	OLS and TS	11		PS8
	22		F	12	Serial Correlation in Time Series Regressions	12		
12	23		**W**	**17**	**Midterm II**			
13	24		W	24	Panel Data	13	PS9	
	25		F	26		14		
14	26	May	W	1	IV Regression	15	PS10	PS9
	27		F	3	Simultaneous Equation Models	16		
15	28		W	8	Binary Dependent Variables	17		PS10
	29		F	10	Regression Discontinuity Design	Lecture Notes		

* The deadline could be on Tuesday night. Check *Mycourses*.