ECON 4950: Econometrics and Application
Department of Economics
Georgia State University
Fall 2017

Instructor: Tareena Musaddiq
Office: Andrew Young School of Policy Studies
Office hours: Tuesday 1 p.m. to 2 p.m. (or by appointment)
Email: tmusaddiq1@gsu.edu (Please email via iCollege)
Class hours: Tuesday and Thursday 11 00 to 12 15 p.m.
Location: Classroom South 301
Prerequisites: Principles of Microeconomics (ECON 2105), Principles of Macroeconomics (ECON 2106), and Introductory Probability and Statistics

Course Description: The course aims to provide a sound foundation for more advanced level courses in this area. The course focuses on the classical linear regression analysis, the main tool of econometrics. Specifically, simple and multiple regression analysis are treated in-depth and in a range of empirical illustrations. A careful attention is given to estimation and inference. Additionally, topics include treatment of dummy variables, model selection, multi-collinearity, heteroskedasticity, omitted variable bias, measurement error, hypothesis testing and issues that are most frequently encountered in empirical analysis. The course also contains guidelines on STATA, our econometrics software.

Goals/Objectives: By the end of the course, students should be able to appreciate and interpret the econometric and statistical analysis reported in studies in economics including policy analysis in the areas of labor markets, industrial organization, finance, development, and taxation. Students should be able to work with economic data sets, diagnose certain problems with linear models and know how to remedy them and have a working knowledge of the classical linear regression model and its applicability.

Course material (Required and Recommended)

Required Textbook: J. Wooldridge *Introductory Econometrics: A Modern Approach*, 5th edition.

Software: *Stata*. The ability to apply econometrics is a key skill for success in the job market and graduate school admission. For this reason, applications of econometric methods are fully integrated into the course structure and occur frequently in the regular class sessions. Students who can afford to purchase a copy of STATA are encouraged to do so, since this program will be used quite frequently during the semester. Purchasing Stata/IC software is recommend. You will qualify for GradPlan pricing.
To order Stata, follow this link: http://www.stata.com/order/new/edu/gradplans

If you do not intend to buy the software, note that it is available for use in the AYSPS

building Room 720, 7th floor. Please note that access to the AYSPS building and computer lab are restricted to the following days and hours: Monday-Friday, 7:00 AM to 7:00 PM. The front doors of AYSPS lock at 7:00 PM and you will not have access after that. However, if you are already in the building you can continue to work. If you leave anytime after 7:00 PM you will not be able to re-enter. In order to enter the computer lab, you MUST have your GSU Panther card for the door swipe. In some instances, the Lab might be reserved and you might not be able to access it. **Your home work assignments will have Stata components in it, so please plan ahead to manage them.**

Suggested Online *Stata* Resources: While we will be having Lab sessions on Stata, I strongly encourage you to explore the software on your own. That is the best way to learn its use. Below are some suggested online resources:

1. UCLA Academic Technology Services:

This resource includes FAQs, learning modules, a reference guide, examples, etc.
http://www.ats.ucla.edu/stat/stata/

2. Carolina Population Center:
http://www.cpc.unc.edu/research/tools/data_analysis/statatutorial

This resource includes tutorial, examples, reference commands, etc.

3. Data and Statistical Services, Princeton University:

http://dss.princeton.edu/online_help/stats_packages/stata/

This resource includes general information on using STATA.

4. YouTube:

StataCorp LP: http://www.youtube.com/user/statacorp

Quick Tour of interface: http://www.youtube.com/watch?v=L8iIj_8lhRc

Quick Help: http://www.youtube.com/watch?v=UpXNMeTzmuI

PDF Documentation: http://www.youtube.com/watch?v=KPHxC-HyrMk

DO files: http://www.youtube.com/watch?v=lRkZhh3hatU

Installing new commands: http://www.youtube.com/watch?v=3CJ-BTmuFws

Descriptive statistics: http://www.youtube.com/watch?v=kKFbnEWwa2s

Simple OLS: http://www.youtube.com/watch?v=HafqFSB9x70

Homepage: The class website can be accessed through *icollege* at https://gastate.view.usg.edu/. Relevant materials for the course will be added to this platform for the students to access.

- Students may set up notifications in iCollege so that they are automatically alerted to new iCollege emails and announcements. iCollege can send such notifications to an email account of their choice or via text messaging. Student help for iCollege can be found here: http://technology.gsu.edu/technology-services/it-services/training-and-learningresources/desire2learn/taking-courses-in-desire2learn-for-students/

General course outline

Below is a tentative schedule of material that we will be covering in each session. Please note that this is a tentative plan and can be changed during the semester.

The course syllabus provides a general plan for the course; deviations may be necessary.

Lecture	Date	Topic	Relevant Readings	Other details
1	**August 22**	**Introduction**	Ch. 1	
2	**August 24**	**Simple Regression Model**	Ch. 2	
3	**August 29**			
4	**August 31**	**Lab Session**	Ch. 3	HW 1 will be posted
5	**September 5**	**Multiple Regression: Estimation**	Ch. 3	
6	**September 7**			
7	**September 12**			HW 1 to be submitted at the beginning of class
8	**September 14**			
9	**September 19**	**Lab 2**		HW 2 will be posted
10	**September 21st**	**Multiple Regression: Inference**	Ch. 4	
11	**September 26**			
12	**September 28**			HW 2 to be submitted at the beginning of class
13	**October 3rd**	**Mid term Exam**		In-class during regular class hours, in regular class room
14	**October 5th**	**Multiple Regression**	Ch. 6	

15	**October 10th**	**Analysis: Further issues**		
16	**October 12th**			
17	**October 17th**	**Multiple Regression Analysis with Qualitative Information**	Ch. 7	
18	**October 19th**			
19	**October 24th**			
20	**October 26th**	**Lab 3**		HW 3 will be posted
21	**October 31st**	**Heteroskedasticity**	Ch. 8	
22	**November 2nd**			
23	**November 7th**			HW 3 to be submitted at the beginning of class
24	**November 9th**	**Lab 4**		HW 4 will be posted
25	**November 14th**	**More on Specification and Data Issues**	Ch. 9	
26	**November 16th**			
27	**November 28th**	**Basic Regression Analysis with Time Series Data**	Ch. 10	HW 4 to be submitted at the beginning of class HW 5 will be posted can be submitted by last day of classes (December 4th)
28	**November 30th**			
		Final Exam		Will be held according to the University Final Exam Schedule : http://registrar.gsu.edu/registration/semester-calendars-exam-schedules/fall-2017-final-exam-schedule/ Thursday December 7th, 10 45 to 1 15 p.m. in Class Room South 301

Optional Material (time permitting): Chapter 5.

Assessment and Grading Policy:

A cumulative score using the following assessments will determine your final grade:

1. Final Exam - 40%
2. Midterm Exam - 30%
3. Five Homework Assignments - 25%
4. Attend/ Class Contribution-5%

The Plus (+) and Minus (-) grading system will be used in assigning the overall letter grade for the course. There will be no extra credits awarded to 'bump up' the grade. There will be no exceptions to the grading policy.

Exams

There will be a midterm and a final exam. The final exam will be cumulative and comprehensive. Those taking the course on the pass/fail basis must make at least a 'D' to get an 'S'(satisfactory) grade.

There will be ***NO make-up examination***. You must take the exams on the dates indicated in the schedule. There are no exceptions. Please check that you have no conflicts for the final exam of this course. If you are missing any exam due to a school sanctioned event (such as a sports competition), you need to let me know 2 weeks in advance so I can make alternative exam arrangements with you.

If you miss the midterm exam, the weight of the missed exam will be placed on the comprehensive final. (This policy only applies to missed exams). You do not need to inform me of reasons for missing the mid term exam. The weights will automatically be transferred to your final. **The final will be a comprehensive exam. You must take the final exam to pass the course.** For further details on university policy regarding grading, please see: http://registrar.gsu.edu/academic-records/grading/

Homework Assignments

You will be given five homework assignments throughout the semester which can be completed in groups of two or individually. The details regarding the assignments and submission will be posted in due time. **No late submissions of assignments will be accepted whatsoever.** If you decide to work in pairs, it is your responsibility to ensure that the entire assignment is submitted. No excuses (including blaming your partner or the computer lab not being available) will be accepted. If you fail to submit an assignment on time you will be given a zero on it.Copying other people's assignments will be considered plagiarism and in violation of academic honesty.

Attendance Policy

Class attendance is strongly recommended. Experience indicates that students who attend class regularly do significantly better than students who do not. Materials for exams and homework will come from both class lectures as well as the course textbook. Students who miss a class should consult with fellow classmates to determine what they missed. Your attendance and participation will count towards your final grade, as mentioned above.

Practice Sets

Periodically, you will be given practice sets along the lines of questions you can expect on the exams. You are expected to solve them on your own but do **not** need to submit these. They will be discussed in the following class and your participation in the

discussion will count towards your class contribution. Working through these problem sets will be very important for your success on the mid term and the final

Expectations*:* This course provides treatments of topics that may be, at times, quite complicated. Therefore, regular attendance and active participation will increase your understanding of course material; a part of the final grade is allocated to active participation.

Please make sure to use the iCollege email system for *any email communication with me.*

NO electronics may be used (except Stata computer), and all electronics must be turned off or put on silent, in the classroom during class and exam time. This is to foster a conducive learning environment where you and your peers are not distracted by use of these devices. You are encouraged to use pen and paper to take notes.

Use a small, non-graphing, basic function calculator that lacks the ability to store information for use during in-class exercises and exams. Use of graphing calculators, cell phones, etc. during the exams will not be permitted

Office hours: You are welcome to come in during my office hours for any questions that you may have. If the stated office hours do not suit your schedule, you can email me and we can set up a time to meet. **Please note that office hours are not intended for me to help you catch up if you missed a class**. If you miss a class please consult your classmates about the material covered. I will not respond to any email asking about material covered in a class that you missed.

Academic Honesty: Nothing less than exemplary behavior with respect to academic honesty is expected, any deviance from such behavior will have serious consequences for your course grade. As such, any and all instances of suspected academic dishonesty will receive serious attention. During exams, I expect certain rules to be adhered to:

- All mobile devices (including cell phones, tablets, laptops, smart watches etc.) should be turned off and put away
- You must follows the instructions that are provided to you at the time of exam
- I reserve the right to move students from their seats to another seat during exam time
- I reserve the right to cancel your exam and assign a zero in case of violation of rules or display of academic dishonesty

For details please see: http://deanofstudents.gsu.edu/files/2016/03/2014-2015-Section-II-Academic-Conduct-Student-Code-of-Conduct.pdf

Code of Conduct: All students are responsible for knowing and adhering to GSU's Policy on Academic Honesty as published in Student Code of Conduct Handbook (See http://codeofconduct.gsu.edu/).

Course Evaluation: Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State University. Upon completing the course, please take time to fill out the online course evaluation.

Disability: Students who wish to request accommodation for a disability may do so by registering with the Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability Services of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which accommodations are sought.

Withdrawal: Students who withdraw after the midpoint of each term will not be eligible for a "W" except in cases of Emergency Withdrawal.

a. Withdrawal Policy: http://advisement.gsu.edu/self-service/policies/withdrawal-policy/

b. Repeat to Replace Policy: http://advisement.gsu.edu/self-service/policies/repeat-to-replace-policy/

c. Grade Appeal and Change (including Incomplete Grades) Policy: http://registrar.gsu.edu/academic-records/grading/grade-appeals-and-changes/

Respect: Georgia State University values diversity and is committed to fostering and maintaining an educational environment which appreciates individual differences in all areas of operation including classroom instruction and materials. To this end, any actions, practices, or processes by any faculty, staff person, or student that discriminates against or is prejudicial toward any person or group based on race, gender, age, religion, ethnicity, nationality, disability, sexual orientation, or socioeconomic status will not be tolerated.

Please note that all rules and policies are applied to students fairly, consistently and without discrimination and exception.

Important Dates:

Late Registration: 21st August to 25th August 2017. 25th August is the last day to add/drop

Payment Due for late registration: August 29th, 2017

Last Day to Withdraw: October 10th, 2017

Thanksgiving Break: 20th to 25th November