ECON 420 Econometrics
Syllabus Spring 2015
Emory University
Department of Economics
Dr. Feridoon Koohi-Kamali
Office: Rich Building 214A
Phone: (404) 727.7222
Lectures: MWF 8.30-9.45 am
Location: White Hall 111
Office Hours: Monday 3-5 PM & Wednesday 3-4 PM, or by appointment.
TAs:
Kimberly Varadi email: Kimberly.varadi@emory.edu Office hours: Thursday 1-2.00 pm
Mingyan Fan email: mfan3@emory.edu Office hours: Thursday 1-2.30 pm
Gigi Zhang email: zzhan64@emory.edu Office hours: Wednesday 5.30-6.30 pm
(*1st floor of Woodruff library outside of Peet’s Coffee and Tea)

Course Description/Overview:
This course is an introduction to Econometrics focused on the classical linear regression model; with a balance of theory, applications, and original research. We begin with a review of statistical basis of Econometrics followed by examinations of each of the assumption of the classical model, consequences of their violation and the available remedies. Additional topics covered are Instrumental Variables and Qualitative dependent Variables. After talking this course, students should be able to:
1 Manipulate economic data sets.
2 Diagnose certain problems with linear models and know how to remedy them
3 Have a working knowledge of the classical linear regression model and its applicability.

Course Materials Required

Software: Stata. You can purchase this either with a perpetual license at a very large student discount, or on an annual basis. The former is highly recommended since Stata is also required in Econometrics classes, and can be used in other current and future courses. If you have problems with obtaining Stata license or a PC, please contact me immediately.

Blackboard: Additionally, a listing (or links) to possible data sources are also included on the course Blackboard site. All announcements, syllabus, home assignments, lecture notes, Stata data sets for application to the course topics, and other course material will be posted on Blackboard.

Exams & Paper:
There will be two midterm exams, a final, a group research paper, and if there is time, an oral presentation. Three additional mandatory homework will also be given during the semester. Please write the names of all members of your group on the hard copy submitted. Your grade will be determined by a cumulative score derived using the following weights:

1. Midterm 1 15% (computer component 5%)
2. Midterm2 20% (computer component 10%)
3. Final 25% (computer component 10%)
4. Three Problem sets 9%
5. Six quizzes 6%
6. Econometric project 22%
7. Attend. Class Contrib. 3%
The **distribution of the grades** will be as follow:

- >94  A
- 90-94  A-
- 87-90  B+
- 84-87  B
- 80-84  B-
- 77-70  C+
- 74-77  C
- 70-74  C-
- 67-70  D+
- 60-67  D/S
- <60  F

Each exam consists of two parts. A written part, and a computer part. The computer part is carried out on your Stata-installed PC after downloading data files, and responding to questions; the outcome should be saved in Stata and emailed to me as an attachment. So it is quite important to have Stata installed on your PC early on, and have good deal of practice with Stata before the first midterm exam. Only 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. Answers to the exam or quiz questions may require the application of formulas, and I may provide them in some cases if appropriate. However, the decision in such cases is mine; I decide about what formulas I expect from the students and what constitutes reasonable grounds for providing a given formula. If you have an excused absence with my prior approval and miss any midterm exam, the weight of the missed exam will be placed on the comprehensive final. Under no circumstances will you be allowed to miss more than one exam, and you must take the final. Grades for group problem sets and quizzes must be the product of work by all group members; evidence on lack of participation in group work will affect your credit.

**Attendance:** attendance check is conducted unannounced on randomly selected days that I give a quiz to the class, or distribute graded exam and quiz papers.

**Econometrics Project paper:** You will choose a subject and complete an applied project during the Semester in groups of three. Additional instructions are attached to the syllabus. The econometric work for the project should be in Stata. The paper will be graded on **multiple aspects:** writing style, content, econometric and statistical analysis.

**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.

**Expectations:** This course provides treatments of topics which 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. I understand if you are shy; however, the benefits of overcoming shyness more than outweigh the costs of trying to remain anonymous. Please hand in your assignment on time in class in hard copy; as a general rule, I do not accept Emailed submission. Please make sure to write the course ID **ECON 420** on the front page; *especially any email communication with me must contain the ECON 420 course ID number*. This allows me to filter your email to the appropriate course folder. There will be **NO make-up examination**, reasons such as travel arrangements, or athletic events, etc. are not acceptable. If something totally unforeseen comes up, contact me as soon as possible. No food is allowed in the classroom during class and exam time. Use a small, non-graphing, basic function calculator that lacks the ability to store information for use during for in-class exercises and exams. Use of graphing calculators, cell phones, etc. will not be permitted.
Honor Code
Upon every individual who is a part of Emory University falls the responsibility for maintaining in the life of Emory a standard of unimpeachable honor in all academic work. The Honor Code of Emory College is based on the fundamental assumption that every loyal person of the University not only will conduct his or her own life according to the dictates of the highest honor, but will also refuse to tolerate in others action which would sully the good name of the institution. Academic misconduct is an offense generally defined as any action or inaction which is offensive to the integrity and honesty of the members of the academic community.

- The Honor Code, a list of offenses and the Honor Council process may be found; http://college.emory.edu/home/academic/policy/honor_code.html

A tentative list of the topics that will be covered during the semester is given below:

1 Probability distribution and sampling
2 Asymptotic estimators and inference
3 Classical linear model, simple and multiple regressions
4 Hypothesis testing
5 Specification: choosing explanatory variables and functional forms
6 Multicollinearity
7 Heteroskedasticity
8 Serial correlations
9 Introduction to instrumental variables & 2SLS
10 Qualitative Dependent variable, linear probability mode, logit and probit

Important dates:

- Mon Feb. 16th Midterm 1
- Wed Mar. 4th Deadline to submit project proposal (around 3 pages)
- Wed Mar. 25th Midterm 2
- Mon Apr. 20th Deadline to submit project
- Wed May 6th Final (11.30AM-2.00PM)
Instructions for the paper

You should start thinking of an idea for your paper right away. You will have to collect the data on your own, so you will need to check that the data you have in mind is easily available. A great idea will not get you too far if you find out shortly prior to the paper due date that the desired data does not exist. On submission of your proposal, you will need to demonstrate that you have the data in hand. Although I would prefer you to come up with an idea or your own, I am available to assist in formalizing an idea or finding data. One possible source for data is the Internet, where a huge amount of data is available for free. In this class we will mostly look at Time Series, so you will be able to apply what we learned in class only if you collect this kind of data. For example, baseball statistics for different teams will not work, while US GDP over time would be suitable. The paper will be graded on the content, style, and clarity of exposition with fairly equal weights. Make sure you spell-check your paper before you turn it in. The paper should include separate sections for each of the following: Abstract, Introduction, Data Description, Empirical Methods, Results, Conclusion, and References. You can place tables and graphs directly in the text or you can combine them at the end of paper in between the Conclusion and References sections.

The Abstract includes a brief synopsis of your paper. This section should be on the same page of the title (10-point font, 1.5 lines spaced). The rest of the paper should be typed at 12-point font double-spaced. The Introduction is used to explain the background of your paper, why it is important, and to explain in further detail what your paper is going to show. Data Description includes a detailed description of the data, including source and frequency. The Empirical Methods section is used to explain the empirical methods used in your analysis. This section needs to be precise so anyone reading your paper should be able to obtain the same data, follow your methods, and replicate your results exactly. The Conclusion needs to clearly state your results and concluding remarks, and your References need to be formatted in the standard method. All the sections should be numbered (I-V) with the exception of the Abstract and your References sections. All the pages have to number starting from 0, which is the number for the title/abstract page. The number on the title page should not be visible.

Any data used, methodology employed, or argument advanced that is not your own must be cited. You reference a source in the body of your paper by stating the name of the author and the publication year (e.g. Hansen (1995)). You must include all references that you have cited in the paper listed in alphabetical order in the References section of your paper. The following page is an example of a title/abstract page. I am also giving you examples of how to reference articles and books.
A Time-Series Analysis of US GDP.

Francis Diebold
Department of Economics
New York University

Spring 2015

Abstract

Here you can write the abstract. It should not be too long and should include a brief introduction explanation of the results you find. It should be self explanatory, simple and captivating such that it invites the reader to continue with the rest of the paper.
How to reference a book:


How to reference articles:


