**ECON 6465. Econometrics**  
*Fall 2015 Course Syllabus*

Lecture: Mondays and Wednesdays 11:30am-1:00pm, McElhinney Room 115  
Laboratory: Fridays 10:00-11:30am, McElhinney Room 104

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**Instructor:** Professor Aimee Chin  
**Office:** McElhinney Room 221B  
**Office hours:** W 1:30-2:30pm. Meetings at other times must be arranged in advance.  
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**Description**  
The purpose of this course is to expose students to statistical tools needed to understand and execute empirical economic research. Topics include linear regression, instrumental variables estimation, limited dependent variable models and panel data methods. Emphasis will be on applying econometrics to real-world problems.

**Learning Outcomes**
- Students will attain, through lectures, readings and problem sets, knowledge about how to analyze quantitative data and how to draw inferences from statistical measures.
- Students will be able to critically assess empirical research, and to thoughtfully produce their own empirical research.

**Prerequisites**  
To take this course, students should have a good understanding of probability and statistics, and have completed an undergraduate introductory econometrics course. Due to our admissions criteria, students in our Master’s in Applied Economics Program meet these prerequisites. If you are not a student in this program, then you must receive prior explicit permission from me to take this course.

**Textbooks**  
There are two required textbooks:

**Data Analysis Software**  
We will be using Stata, a statistical analysis software used widely by academics and policy analysts. Public versions of Stata are available at selected locations on UH campus including your computer lab, but you may wish to purchase your own copy. UH has an agreement with Stata Corp. called “GradPlan” which allows students to purchase its software at reduced rates; see [http://www.stata.com/order/new/edu/gradplans/student-pricing/](http://www.stata.com/order/new/edu/gradplans/student-pricing/). For the purposes of our
course, you should buy Stata/IC 14 six-month license which costs $75. Those of you intending to do a summer research paper might find it worthwhile to purchase the one-year license for $125. A cheaper alternative would be to get Small Stata 14; note you will be handling data sets larger than what this software permits but you can use it to test programs using a part of the data set, and run the final program in the computer lab. If you have an older version of Stata already, that is fine to use for our course.

**Requirements and Grading**

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<tr>
<th>Requirement</th>
<th>Description</th>
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<tr>
<td>1) problem sets</td>
<td>Problem sets</td>
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<td>2) term paper</td>
<td>Due on Friday December 4 at noon</td>
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<td>3) final exam</td>
<td>Friday December 11, 11:00am-1:00pm, in lecture room</td>
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<td>4) class participation</td>
<td>Combination of attendance, preparedness for class and quality of classroom comments in lectures and labs</td>
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30% 20% 40% 10%

*Problem Sets:* Problem set assignments will be posted on UH Blackboard Learn (go to [http://www.uh.edu/blackboard/](http://www.uh.edu/blackboard/) and click on the white “Blackboard Learn” button). Some will involve data exercises. For the data exercises, we will use Stata. Students are encouraged to work together on problem sets. However, each student must write up his/her own problem set. No copies will be accepted, and this includes programs.

*Term Paper:* You will implement an empirical project and write up its results as part of this course. I will provide more details about this assignment in October.

*Final Exam:* This will be a closed-book exam covering all the material of the course.

*Class Participation:* Students are expected to attend every lecture and lab, complete the readings in advance of the lecture, and participate in classroom discussion. If you miss a lecture or lab, it is your responsibility to learn the material missed; I usually provide a handout containing the lecture slides for each lecture; when you miss a lecture, you cannot get the handout for that missed lecture from me.

*There will be no make-ups or extensions given for the problem sets, term paper and final exam except with prior consent from me or in the event of an unexpected emergency.*

**General Policies**

1) Lectures will begin at 11:30am and end at 12:50pm. Labs will begin at 10:00am and end by 11:20am.


3) If you have special learning needs, please contact me. I can make accommodations only if given advance notice.
Course Outline and Textbook Readings (subject to change)

1. Introduction (1 lecture)
   Angrist and Pischke Introduction
   Wooldridge Chapters 1 & 19, also see Appendices for a refresher on probability and statistics

2. The Selection Problem and Random Assignment (about 2 lectures)
   Angrist and Pischke Chapter 1

3. Review of Linear Regression (about 7 lectures)
   Angrist and Pischke Chapter 2
   Wooldridge Chapters 2-9

4. Panel Data and Difference-in-Differences (about 7 lectures)
   Angrist and Pischke Chapter 5
   Wooldridge Chapters 13 & 14

5. Instrumental Variables (about 5 lectures)
   Angrist and Pischke Chapter 3
   Wooldridge Chapters 15 & 16

6. Regression Discontinuity (about 2 lectures)
   Angrist and Pischke Chapter 4

7. Limited Dependent Variable Models (about 2 lectures)
   Wooldridge Chapter 17