Econometrics - ECON 308

Course Details:

Type	Time	Days	Where	Date Range	Schedule Type	Instructors
Class	3:30 pm - 4:50 pm	MW	Morton Hall 302	Jan 20,2016 - Apr 29,2016	Lecture	Bryan S Weber

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Final Exam Time: Monday May 9th First Period 9:00-12:00 noon
Office Hours: Mon 11-12am Morton Hall, Room 129 or by appointment.

Introduction:

This semester we will be covering econometrics, the study of statistics as applied to economics. The goal of this class is to lead you towards creating functional research. To achieve this goal we will spend the semester examining the standard toolbox of methods employed by economists and other social scientists. We will cover both applied examples and theory. To demonstrate your learning, you will perform your own research project using these techniques in a semester-long project.

About this course:

This course is not meant to be taken lightly. Consider it similar to an advanced mathematics course in style and difficulty. The material is cumulative by nature to a high degree. Expected workload for the class is about 6 hours a week. Information on academic policies on participation by students with disabilities, accommodations for religious observances, academic conduct, complaints, grade appeals, and any other standing policies are available in the Economics Department Office. If you have any special needs or questions, please contact me via email or after class. While I would hope none need to use it, the drop date is January 29, with the last day to withdraw being March 18.

Course Material:

We will be using: *Introductory Econometrics, 6th Edition* by Wooldridge. We will also be using the online course material (homework), and the book is available online. You may get any edition you may like of the book. Other books popularly recommended are:

An Introduction to Modern Econometrics Using Stata, Stata Press. Baum. 2006.
Basic Econometrics with Stata. Carl Moody. 2005.
Introduction to Econometrics. James H. Stock, Mark W. Watson.

Software:

Most students will be using STATA, and the assignments and online course is geared towards STATA. It is available on the school computers. You do not have to use STATA, this class is not software-specific. If you are looking for a free alternative, I suggest R via RStudio. Learning

how to use software, troubleshoot code, and manipulate data in a program of this sort is an integral part of becoming an evidence-based researcher.

Grading Structure:

> Participation (Wiki): 5%
> Homework: 20%
> Midterm Exam: 25%
> Final Exam (cumulative): 30%
> Project: 20%

Participation:

I will provide credit for those engaging in a relevant discussion on the Wiki. The wiki will begin as a collection of essay questions and evolve into a group-designed study guide over the course of the semester. Any student may comment, ask questions, or answer questions. Any student may improve upon any answer, even if it is so minor as to improve formatting. Even if your attempt is eventually found to be incorrect and removed, you still will receive credit for the attempt.

Homework:

Approximately Weekly. Assignments may be done in groups, but note that most online assignments tend to have different content than their neighbors. These will be primarily multiple choice.

Exams:

One Mid-Term, primarily essay based. See to the Wiki and homework as good study guides. One cumulative final exam.

Project:

First, identify a meaningful thesis, one that could imply a policy that may improve welfare. During the course of this project, I would like you to convince me that your research topic is a worthwhile endeavor (12.5%). I would like you to choose/collect data (10%) that is appropriate for your project. Read existing literature on the subject (12.5%). Cite your sources in APA format. Using statistical tools you have learned in this class, and your programming skills you have learned, provide hard statistical evidence that shows that your thesis either does or does not follow from the data (25%). Openly address the weaknesses of your approach (15%). Write this up in a convincing, clear, unbiased paper that describes all of the above: Data, Literature Review, Methodology, Results, Conclusion (25%). ($5 \leq$ pages ≤ 10)

Calendar is Tentative and Subject to Change

Date	Relevant Dates	Intended Lecture
1/20/2016	Assignment 1, Review, Data	Appendixes, Ch. 1 Data
1/25/2016	Assignment 2, OLS	Ch. 2 OLS
1/27/2016		Ch. 2 OLS
1/29/2016	**Add/Drop Ends**	**NA**
2/1/2016	**Paper Topics**	Ch. 2 OLS
2/3/2016	Assignment 3, Multiple Regression	Ch. 3 Multiple Regression
2/8/2016		
2/10/2016	Assignment 4, Inference	Ch. 4 Multiple Regression Inference
2/15/2016		
2/17/2016	Assignment 5, OLS Asymtotics	Ch. 5 OLS Asymtotics
2/22/2016		
2/24/2016	Assignment 6, Nonparametrics	Ch. 6 Further Issues
2/29/2016	**Brief of Data, Approach, Lit. Review**	
3/2/2016	**Midterm Exam**	**NA**
3/7/2016	**Spring Break**	**NA**
3/9/2016	**Spring Break**	**NA**
3/14/2016	Assignment 7, Dummy Variables	Ch. 7 Dummy Variables
3/16/2016		
3/18/2016	**Last Day To Withdraw**	**NA**
3/21/2016	Assignment 8, Heteroskedacisity	Ch. 8 Heteroskedasicity
3/23/2016		
3/28/2016	Assignment 9, Time Series	Ch. 10, Time Series Regression
3/30/2016	**Rough Draft**	
4/4/2016	Assignment 10, Serial Correlation	Ch. 12, Serial Correlation
4/6/2016		
4/11/2016	Assignment 11, Panel Data	Ch. 13, Simple Panel Data
4/13/2016		
4/18/2016		Ch. 14.1, Fixed Effects
4/20/2016	Assignment 12, Instrumental Variables	Ch. 15, Instrumental Variables
4/25/2016		
4/27/2016	**Final Draft**	
	Final Exam	Optional Topics As Permitted