SPEA V607 **Spring 2014**
Statistics for Research in Public Affairs II **Haeil Jung**

SYLLABUS

Course Time

Monday and Wednesday 5:30 pm – 6:45 pm: PV 275

Instructor Availability

Office: 331 SPEA Building
Hours: Monday and Wednesday, 2:30 pm to 4:00 pm or by appointment
Email: hij@indiana.edu

Course Description

This is the second statistics course in the quantitative methods sequence required of all SPEA Ph.D. students. This course intends to provide relevant Statistics and Econometrics skills for your future research in various academic fields in SPEA. The contents of this course will be theoretical and practical. I plan to use STATA for the course. The pre-requisite for this course is V606 or an equivalent course. Master students need permission from the instructor to take this course.

Reading

Required Readings for this class

Wooldridge, Jeffrey. 2008. *Introductory Econometrics: Modern Approach, 4th edition*. Mason, OH: South-Western College Pub.

Long, Scott. 1997. Regression Models for Categorical and Limited Dependent Variables. 1st edition. Thousand Oaks, CA: Sage Pub.

Wooldridge, Jeffrey. 2002. *Econometric Analysis of Cross Section and Panel Data.* Cambridge, MA: MIT Press, 2002.

Cameron, A. Colin, and Pravin K. Trivedi. 2010. *Microeconometrics Using Stata, Revised Edition.* College Park, Texas: STATA Press.

Recommended Readings for this class

Angrist, Joshua, and Jorn-Steffen Pischke. 2009. *Mostly Harmless Econometrics.* Princeton, NJ: Princeton University Press.

Cameron, A. Colin, and Pravin K. Trivedi. 2005. *Microeconometrics*. New York: Cambridge University Press.

Davidson, Russel, and James G. MacKinnon. 2003. *Econometric Theory and Methods*. New York: Oxford University Press.

DeGroot, Morris H., and Mark J. Schervish. 2002. *Probability and Statistics, 3rd edition*. New York: Addison Wesley.

Dowling, Edward. 2000. *Schaum's Outline Introduction to Mathematical Economics, 3rd Edition.* McGraw-Hill

Freedman, David A. 2010. *Statistical Models and Causal Inference. A Dialogue with the Social Sciences.* New York: Cambridge University Press.

Greene, William. 2007. *Econometric Analysis, 6th edition.* Upper Saddle River, New Jersey: Prentice Hall.

Long, Scott and Jeremy Freese. 2006. Regression Models for Categorical Dependent Variables Using Stata. College Park, Texas: STATA Press.

Course Requirements

Attendance:

Attendance is required.

Exams:

Monthly quizzes cover the previous four weeks. The final exam covers all materials of this course.

Group Homework:

Homework exercises will be addressed via use of STATA. A working group consists of 2-3 students. A single set of answers for the assignment will be submitted by you and your group members collectively. However, all students should be able to successfully employ, on the exams and in class, the problem-solving approaches used on the homework assignments. Unless previously approved by the instructor, late homework assignments will be accepted with a 10 percent penalty per day late, up to three days.

For a group term project, each group is required to choose an empirical paper that has the accessible data and uses the empirical methods covered in V606 and V607. You are required to replicate and critique the paper.

Grading Policy

The following grading criteria will be used:

Monthly Quiz (Closed book and closed note)	30%
Final Exam	30%
Group Homework	15%
Group Term Paper	20%
Class Discussion/Participation/Attendance	5%

1st Week (Jan 13)

Mon	Multiple Regression Analysis: Further Issues Readings: Wooldridge (2008) Chapter 6
Wed	Multiple Regression Analysis: Further Issues Readings: Wooldridge (2008) Chapter 6

2nd Week (Jan 20)

Mon	No Class (Martin Luther King Jr. Day)
Wed	Multiple Regression Analysis: Further Issues Readings: Wooldridge (2008) Chapter 6

3rd Week (Jan 27)

Mon	Multiple Regression Analysis with Qualitative Information: Dummy Variables Readings: Wooldridge (2008) Chapter 7.1 – 7.4
Wed	Multiple Regression Analysis with Qualitative Information: Dummy Variables Readings: Wooldridge (2008) Chapter 7.1 – 7.4

4th Week (Feb 3)

Mon	More on Specification and Data Issues Readings: Wooldridge (2008) Chapter 9
Wed	More on Specification and Data Issues Readings: Wooldridge (2008) Chapter 9

5th Week (Feb 10)

Mon	Instrumental Variables Estimation and Two Stage Least Squares Readings: Wooldridge (2008) Chapter 15.1 – 15.6 **Monthly HW #1 Due**
Wed	Instrumental Variables Estimation and Two Stage Least Squares Readings: Wooldridge (2008) Chapter 15.1 – 15.6 **30 min Monthly Quiz #1**

6th Week (Feb 17)

Mon	Simultaneous Equations Models Readings: Wooldridge (2008) Chapter 16.1 – 16.4
Wed	Simultaneous Equations Models Readings: Wooldridge (2008) Chapter 16.1 – 16.4

7th Week (Feb 24)

Mon	Bivariate Dependent Variable Model: LPM Readings: Wooldridge (2008) Chapters 7.5 and 8.5, Long (1997) Chapter 3.1
Wed	Bivariate Dependent Variable Model: LPM Readings: Wooldridge (2008) Chapters 7.5 and 8.5, Long (1997) Chapter 3.1

8th Week (Mar 3)

Mon	Bivariate Dependent Variable Model: Logit and Probit Readings: Wooldridge (2008) Chapter 17.1, Long (1997) Chapters 3.2-3.9
Wed	Bivariate Dependent Variable Model: Logit and Probit

	Readings: Wooldridge (2008) Chapter 17.1, Long (1997) Chapters 3.2-3.9

9th Week (Mar 10)

Mon	Bivariate Dependent Variable Model: Logit and Probit Readings: Wooldridge (2008) Chapter 17.1, Long (1997) Chapters 3.2-3.9 **Monthly HW #2 Due**
Wed	Bivariate Dependent Variable Model: Logit and Probit Readings: Wooldridge (2008) Chapter 17.1, Long (1997) Chapters 3.2-3.9 **30 min Monthly Quiz #2**

10th Week (Mar 17)

Mon	Spring Break
Wed	Spring Break

11th Week (Mar 24)

Mon	The Tobit Model for Corner Solution Responses Readings: Wooldridge (2008) Chapter 17.2, Wooldridge (2002) Chapters 16.1 to 16.7, Long (1997) Chapter 7
Wed	The Tobit Model for Corner Solution Responses Readings: Wooldridge (2008) Chapter 17.2, Wooldridge (2002) Chapters 16.1 to 16.7, Long (1997) Chapter 7

12th Week (March 31)

Mon	Censored and Truncated Regression Models Readings: Wooldridge (2008) Chapter 17.4, Wooldridge (2002) Chapters 16.1 to 16.7, Long (1997) Chapter 7
Wed	Censored and Truncated Regression Models Readings: Wooldridge (2008) Chapter 17.4, Wooldridge (2002) Chapters 16.1 to 16.7, Long (1997) Chapter 7

13th Week (April 7)

Mon	Sample Selection Corrections Readings: Wooldridge (2008) Chapter 17.5, Wooldridge (2002) Chapters 17.1 to 17.5
Wed	Sample Selection Corrections Readings: Wooldridge (2008) Chapter 17.5, Wooldridge (2002) Chapters 17.1 to 17.5

14th Week (April 14)

Mon	Sample Selection Corrections Readings: Wooldridge (2008) Chapter 17.5, Wooldridge (2002) Chapters 17.1 to 17.5
Wed	The Poisson Regression Model Readings: Wooldridge (2008) Chapter 17.3, Wooldridge (2002) Chapters 19.1 to 19.2, Long (1997) Chapters 8.1 to 8.2

15th Week (April 21)

Mon	The Poisson Regression Model Readings: Wooldridge (2008) Chapter 17.3, Wooldridge (2002) Chapters 19.1 to 19.2, Long (1997) Chapters 8.1 to 8.2 **Monthly HW #3 Due**
Wed	The Poisson Regression Model Readings: Wooldridge (2008) Chapter 17.3, Wooldridge (2002) Chapters 19.1 to 19.2, Long(1997) Chapters 8.1 to 8.2 **30 min Monthly Quiz #3**

16th Week (April 28)

Mon	Individual project presentation if we finish all topics.
Tue	Make-up class: Final Exam Review Session (Time permitting) Time and place TBA
Wed	PAA Conference: No Class

17th Week (May 5): Final Exam Week

Mon	**Final Exam (Closed book and one page note)** **2:00-4:00 p.m., Sun., May 4**