

**Public Affairs 818:
Intro to Quantitative Methods for Public Policy Analysis**

Fall 2011

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Class Meeting Times:

Lecture: Social Science 4308, 06:00 PM - 07:55 PM, T

Discussion 301: Vilas 4011, 5:30 PM - 6:20 PM, R

Discussion 302: Social Science 6112, 1:00 PM - 1:50 PM, R

Discussion 303: Noland 379, 1:20 PM - 2:10 PM, F

* You may attend any discussion section that you like, space permitting.

Course Description: This course will cover the basics of probability, statistics, and quantitative methods with an emphasis of conferring an understanding of statistical inference and its applications to policy analysis. Prerequisites: Graduate standing and LF student status (or permission from instructor).

Required Text: Modern Business Statistics with Microsoft Excel, (any edition) by Anderson, Sweeney, and Williams. (hereafter ASW)

Strongly Recommended Text: Introduction to Econometrics (2nd edition), by James H. Stock and Mark W. Watson. (hereafter SW)

ASW does a fine job with the material up to the point that we start talking about regression analysis, but it does not provide an adequate treatment of regression analysis. Once we start talking about regression the readings will come from S&W. These readings we be placed on electronic reserve at the library, but purchasing S&W is strongly recommend as it will be a valuable reference for years to come and is required for PA819.

Course Requirements: Students are expected to attend all lectures and discussions sessions. In addition, students will be responsible for the completion of weekly problem sets. These problem sets will be graded using a check+, check, check- grading scale. Students are encouraged to work in groups on problem sets, but each student must turn in their own work. Under no circumstance will late homework be accepted. The problem sets will account for 20 percent of the grade and are intended to provide intensive practice in applying the tools developed in lecture. You should look at homework as an opportunity to make some mistakes and learn from them. We expect that you will put time and effort into completing assignments, but we do not expect they will be perfect and error free.

Discussion Sections: All students enrolled in this class should be assigned to a discussion section with Wilson Law. These discussion sections will meet once a week throughout the course of the semester. In discussion sections the problem sets from the previous week will be reviewed, old material may be rehashed, questions will be answered, and, on occasion, new material may be presented. To get the most out of the course attendance and active participation in these discussion sections will be vital.

Exams: There will be two midterm examinations and one final. The midterm examinations are scheduled during regular class hours and will cover material covered over the course of the previous 4 to 6 weeks. The final examination is cumulative.

Grades: The following weights will be used in computing your final grade

Midterm Exam 1 . . .	20 percent
Midterm Exam 2 . . .	20 percent
Final Exam	30 percent
Weekly Homework .	20 percent
Participation	10 percent

If you have questions about the grading of your examination or homework assignments please contact Wilson. In most instances questions will be answered and mistakes will be corrected as a result of these interactions. If, after meeting with Wilson to discuss questions about the grading of your examinations, you are still unsatisfied, email me an explanation of the grading dispute and I will intervene.

Tentative Class Schedule (subject to change)

Dates	Topics(s)	Readings
Sept. 6	Syllabus, Counting Rules, Intro to Probability	ASW 4
Sept. 13	Bayes Rule, Random Variables, Expected Value, Variance, Probability Distributions	ASW 4 & 5
Sept. 20	Expected Value, Variance, Probability Distributions	ASW 6
Sept. 27	Data and Statistics, Sampling Distributions, Intro to Statistical Inference	ASW 1, 2, 3, 7
Oct. 4	Confidence Intervals, Hypothesis Testing	ASW 8, 9
Oct. 11	Type I Errors, Type II Errors Statistical Power, Exam Review	ASW 8, 9
**MIDTERM #1 – Tuesday October 18 – 6:00-8:00 PM		
Oct. 25	Statistical Inference – Two populations	ASW 10
Nov. 1	Statistical Inference – Two Populations Bivariate Regression	ASW 10, SW 4, 5
Nov. 8	Bivariate Regression	SW 4, 5
Nov. 15	Multivariate Regression, Exam Review	SW 6, 7
**MIDTERM #2 - Tuesday November 22 – 6:00-8:00 PM		
Nov. 29	Multivariate Regression, Empirical Human Capital Model	SW 7, 8
Nov. 6	Returns to Scale, Estimating Returns to Scale	
Dec. 13	Estimating Returns to Scale, Exam Review	
**FINAL EXAM – Saturday December 17 – 1:00-4:00 PM – room TBA		