

Spring 2012  
University of Maryland  
Department of Economics

**Lectures:** 1114 Woods Hall  
Tu&Th 11am-12.15pm

ECON422 Syllabus  
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## ECON422 Econometrics I Syllabus

**Class Website:** <https://www.elms.umd.edu>

**Course Objective:** At the end of this class you will know how to do basic empirical research using economic data.

To do empirical research means using statistical techniques to manage and analyze data. The main goal is to *quantify* how one economic variable (such as someone's education) affects another variable (for instance his wage). These techniques are used by both academic economists (professors) and professional economists (i.e. those working for business, government and NGOs); academic economists use them, in large part, to test theories and models; professional economists do empirical work to help management with decision making.

**Official Course Description:** 3 credits. Emphasizes the interaction between economic problems and the assumptions employed in statistical theory. Formulation, estimation, and testing of economic models, including single variable and multiple variable regression techniques, theory of identification, and issues relating to inference.

**Prerequisites:** ECON200, ECON201, and ECON321; or permission of department. For ECON majors only.

A student is on a good footing for taking this class if he/she understands the following terms:

- Population, Sample, Data
- Random Variable, Probability Distribution
- Correlation, Independence, Moments of a Distribution: Expected Value, Variance, Covariance, Correlation Coefficient
- Point Estimator, Interval Estimator (Confidence Interval)
- Sampling Distribution of an Estimator
- Properties of Estimators: Unbiasedness, Consistency, Efficiency

**Textbook:** Jeffrey Wooldridge, *Introductory Econometrics: A Modern Approach*, 4<sup>th</sup> Edition (Thompson South-Western 2008).

This textbook contains required reading. It can be purchased at the University Book Center. We cover ten chapters from this book.

**Expectations:** Prepare for class (i.e. read chapter before class), Attend class, Do the assigned work by the deadlines.

**Grading:** A student's final grade for the class is based on:

Ten Problem Sets (best seven count) <sup>1</sup>	15%
Three Computer Projects (all count)	15%
Midterm Exam	30%
Final Exam (cumulative)	40%
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TOTAL:	100%

**Letter Grades** depend on the total points accumulated:

86-100%	As
66-85%	Bs
46-65%	Cs
26-45%	Ds
0-25%	F

**Getting a Good Grade:** This course contains technical material. The easiest way to stay on top of it is probably to keep up with the class weekly – otherwise later material will seem pretty hard. Also, look for meaning, not memorization.

**Stata Labs:** The statistical software used in this class is *Stata 12* (StataCorp 2011). Purchasing the software is not required – it's actually expensive. You have access to it in the OACS computer labs in LeFrak Hall.

**Policy on Missed Assignments (Problem Sets/Computer Projects/Exams):**

All assignments are due strictly on the deadline printed on this syllabus, at the beginning of class 11am. Problem sets and computer projects cannot be rescheduled. A student may be able to qualify for a midterm or final make-up. To reschedule a midterm or final a student must have taken care of ALL of the following:

- Inform the professor in advance by email that the exam will be missed.
- The excuse must conform to university policies (it must be based either on religious observances, medical emergencies or acts of nature). **No exceptions.**
- Provide the professor with a formal written excuse signed by a third party (such as medical staff, police officer, judge).

**Letters of Recommendation:** For a strong letter, apart from getting an A the requesting student must have shown good class participation (asking questions, giving examples etc).

**Special Needs:** Students with disabilities must inform the instructor of their special needs at the beginning of the semester.

**Academic Integrity:** The University of Maryland has a Code of Academic Integrity and an Honor Pledge. The Code will be strictly enforced. All students are expected to abide by its standards.

**Course Evaluations:** The online course evaluation system opens *Tuesday April 24* and closes *Friday May 11*. Please fill out the anonymous online survey at: <https://www.courseevalum.umd.edu/>.

<sup>1</sup> This also means you can get the full credit of 15% even if you do not turn in three of the problem sets, say because you were sick or had an unexpected absence due to other reasons.

**CALENDAR OF CLASSES**  
(Major Scheduled Grading Events in bold font)

Th Jan 26	Introduction to Econometrics	Wooldridge Chapter 1
Tu Jan 31	Introduction to Econometrics	Wooldridge Chapter 1
Th Feb 2	Review of Probability, <b>Problem Set 1</b> due	Wooldridge Appendix B
Tu Feb 7	Review of Probability	Wooldridge Appendix B
Th Feb 9	Review of Statistics, <b>Problem Set 2</b> due	Wooldridge Appendix C
Tu Feb 14	Review of Statistics	Wooldridge Appendix C
Th Feb 16	Stata Lab 1, <b>Problem Set 3</b> due	
Tu Feb 21	The Simple Regression Model	Wooldridge Chapter 2
Th Feb 23	The Simple Regression Model, <b>Computer Project 1</b> due	Wooldridge Chapter 2
Tu Feb 28	The Simple Regression Model	Wooldridge Chapter 2
Th Mar 1	Multiple Regression: Estimation, <b>Problem Set 4</b> due	Wooldridge Chapter 3
Tu Mar 6	Multiple Regression: Estimation	Wooldridge Chapter 3
Th Mar 8	Multiple Regression: Estimation, <b>Problem Set 5</b> due	Wooldridge Chapter 3
<b>Tu Mar 13</b>	<b>Midterm Exam</b>	
Th Mar 15	Stata Lab 2	
Tu Mar 20	SPRING BREAK, No Class	
Th Mar 22	SPRING BREAK, No Class	
Tu Mar 27	Multiple Regression: Inference	Wooldridge Chapter 4
Th Mar 29	Multiple Regression: Inference, <b>Computer Project 2</b> due	Wooldridge Chapter 4
Tu Apr 3	Multiple Regression: Inference	Wooldridge Chapter 4
Th Apr 5	Multiple Regression: Inference, <b>Problem Set 6</b> due	Wooldridge Chapter 4
Tu Apr 10	Multiple Regression: Further Issues	Wooldridge Chapter 6
Th Apr 12	Multiple Regression: Dummy Variables, <b>Problem Set 7</b> due	Wooldridge Chapter 7
Tu Apr 17	Multiple Regression: Dummy Variables	Wooldridge Chapter 7
Th Apr 19	Stata Lab 3, <b>Problem Set 8</b> due	
<i>Tu Apr 24</i>	Heteroskedasticity, <i>Online Course Evaluations Open</i>	Wooldridge Chapter 8
Th Apr 26	Heteroskedasticity, <b>Computer Project 3</b> due	Wooldridge Chapter 8
Tu May 1	Heteroskedasticity	Wooldridge Chapter 8
Th May 3	Basic Time Series Regression Analysis, <b>Problem Set 9</b> due	Wooldridge Chapter 10
Tu May 8	Basic Time Series Regression Analysis	Wooldridge Chapter 10
Th May 10	Basic Time Series Regression Analysis, <b>Problem Set 10</b> due	Wooldridge Chapter 10

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*Fri May 11* Reading Day, *Online Course Evaluations Close*

**Sat May 12** **Final Exam** (8-10am in WDS 1114)