

Econ 345-003: Introduction to Econometrics

George Mason University, Spring 2015

Time: Tuesday 7:20 pm - 10:00 pm
Location: Planetary Hall 122
Instructor: Robert L. Mayo
Contact: rmayo3@gmu.edu
Office: Enterprise Hall, 3rd floor
Office Hours: After class or by appointment

Description:

Econometrics is the study of statistics applied to economic analysis. The objective of this class is for you to develop an intuitive understanding of the basics of econometrics sufficient to allow you to read and understand empirical economic papers and to provide a strong foundation for further econometrics study.

Textbook:

Introduction to Econometrics, Brief Edition by Stock & Watson (Required)

Some other good (optional) introductory econometrics textbooks are:

Introductory Econometrics: A Modern Approach by Jeffrey M. Wooldridge

Using Econometrics: A Practical Guide by A.H. Studenmund

Introduction to Econometrics by Christopher Dougherty

Software:

We will use Stata in this course (Required). A six month student license for “Small Stata” is available at www.stata.com for \$35. If you plan to take more econometrics courses in the future, you should consider purchasing the perpetual license for Stata IC for \$189. It is also possible to use Stata for free through the campus computer labs or the virtual computer lab (VCL) at <http://doit.gmu.edu>.

Requirements and Grading:

Exams: There will be a mid-term exam and a cumulative final exam. Both will be in-class and closed book. There will be no make-up exams offered. If the mid-term is missed due to documented illness, the points will be shifted to the final.

Assignments: Homework will be assigned most weeks and will be due at the start of class the following week. To encourage attendance, homework must be submitted in hard copy. The two lowest grades will be dropped, which may include homework you were unable to submit on time. Late assignments will not be accepted other than for documented illness.

Journal Article Presentation: Each student will present a peer-reviewed economic journal paper from a list I will provide. Presentations will be roughly 10 minutes each, as time permits. Presentations will be graded as homework, but may not be dropped from the calculation of your homework grade.

Research Paper: Each student will write a research paper answering an empirical question using an econometric technique. The paper will be due in hard copy at the final exam.

Weighting for final grade:

Final exam	25%
Mid-term exam	25%
Assignments	25%
Research paper	25%

Schedule:

The following is an outline of the sequence of topics to be studied. Revisions may, and probably will, occur.

PART I DISTRIBUTIONS AND TESTS

- Introduction and STATA
- Statistics review
- Hypothesis testing
- Normal distribution
- Central limit theorem
- Student's t-distribution
- Chi square distribution
- F distribution
- Binomial distribution
- Poisson distribution
- ANOVA
- Non-parametric tests

PART II REGRESSION

- Ordinary least squares regression with one independent variable
- Hypothesis testing with one independent variable
- Ordinary least squares regression with multiple independent variables
- Hypothesis testing with multiple independent variables
- Non-linear regression functions
- Detecting and correcting regression problems
- Conducting a regression study

Important dates:

Martin Luther King Day (no classes)	Mon Jan 19
First day of classes	Tue Jan 20
Last day to add classes or drop with no tuition penalty	Tue Jan 27
Last day to drop with a 33% tuition penalty	Tue Feb 10

Martin Luther King Day (no classes)	Mon Jan 19
Final Drop Deadline (67% tuition penalty)	Fri Feb 20
Spring Break	Mar 9 – Mar 15
Last day of classes	Mon May 4
Final exam 7:30 pm – 10:15 pm	Tue May 12

Academic Integrity:

George Mason University has an Honor Code, which requires all members of this community to maintain the highest standards of academic honesty and integrity. Cheating, plagiarism, lying, and stealing are all prohibited. All violations of the Honor Code will be reported to the Honor Committee. See honorcode.gmu.edu for more detailed information.

Office of Disability Services:

If you have a disability and require accommodation, please inform me and contact the office of disability services. All accommodations must be arranged through that office.

<http://ods.gmu.edu/>

Email Accounts:

Students must use their Mason email accounts—either the existing "MEMO" system or a new "MASONLIVE" account to receive important University information, including messages related to this class. See <http://masonlive.gmu.edu> for more information.

Enrollment:

Students are responsible for verifying their enrollment in this class. Schedule adjustments should be made by the deadlines published in the Schedule of Classes. (Deadlines each semester are published in the Schedule of Classes available from the Registrar's Website registrar.gmu.edu.)