



Econometrics I

Summer 2023
ECON420-001
MW 3:20 – 4:35 pm
Burnell Hall / Room 109
Office Hours: MW 1:00 - 1:45 pm @ Moakley 130, TR 8:30 - 9:15 am @ Moakley 130
URL: webhost.bridgew.edu/m3jones

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COURSE OVERVIEW: This course will provide students with a basic understanding of econometrics and skills needed to perform empirical research. Instruction will be focused on developing the intuition needed to perform and understand econometric analysis. Specifically, students will learn in depth how to perform multiple linear regressions using cross-sectional data and how to overcome the various problems they will encounter. The intention is to build a solid foundation for the student to write empirical papers and understand professional journal articles.

Time-series and panel-data analyses will be introduced but not covered in depth in order to allow time to give an overview of instrumental variables estimation, two stage least squares, and limited dependent variable models.

The **required** software is STATA. A student version is available from <http://www.stata.com/order/new/edu/gradplans/student-pricing/> directly from STATA. The “STATA/IC” will be necessary for this course because it can handle the larger datasets provided with the course.

MS Excel is also **required** for this course but fortunately it will not cost you anything. Excel is part of the standard Microsoft Office Professional or Office 365 product and is ubiquitous in the professional setting. As part of the course, students will learn the skills needed to perform multiple regressions STATA. Excel should be used for data management and could be used for some of the simpler regressions. The textbook comes with data sets from a variety of research areas of interest.

TEXTBOOK: The required text is *Introductory Econometrics: A Modern Approach, 6th Edition*, by Jeffrey Wooldridge, (ISBN-13: 9781305270107). Cengage Learning, Boston, MA, USA (2016). This comes with the online subscription required from Cengage Learning.

REQUIREMENTS: There will be a **Check In Assignment** to make sure you have a computer with access to Cengage, **one problem set for each chapter** covered (approximately 11), and **one Stata problem set for each chapter covered**. The Stata problem sets are like exams or projects where you apply what you are learning.

No make-up problem sets will be given unless due to extreme events. Get all assignments done prior to the end of the semester. All problem sets must be done in STATA with output sufficient for showing work.

GRADES: Your final grade is a weighted average of your performance on **all of the assignments**. The grade



is calculated from points earned: the total points earned is divided by the total points possible (then multiplied by 100 to get a percentage). Please note that some points will not be shown immediately after submitting the assignment because the instructor must enter a score for the assignments where you email a log file for a Stata assignment.

Fractionalized grading (+/-) will be used. Conversion of number grades to letter grades will be determined at the end of the semester and may include a slight curve. However, a score of 90% (80%, 70%, 60%) will be sufficient for a letter grade of A- (B-, C-, D-).

OTHER INFO: The Cengage system will be used for this course so get your access to this course on Cengage taken care of immediately. Your first graded assignment is to get into Cengage and do the “Check In” assignment for a grade. You should spend at least 8 hours per chapter on this course -- there is a positive correlation between study time and grade earned! Cramming generally doesn't help to learn and understand econometrics concepts.

Active class participation is encouraged (including visiting the professor)!

COURSE OUTLINE: The topics covered will generally follow the chapters in the text as shown below. However, additional material may be included at the instructor’s discretion (including material from the Internet).

Week	Topics	Assignments
Week 1	Syllabus Review and Excel/STATA Review	Check in Assignment Due PS1 and STATA PS1 Due TBA PS2 and STATA PS2 Due TBA PS3 and STATA PS3 Due TBA
	Hypothesis Testing Review (Use Excel)	
	Chapter 1 The Nature of Econometrics and Economic Data	
	Chapter 2 The Simple Regression Model	
	Chapter 3 Multiple Regression Analysis: Estimation	
Week 2	Using STATA to do files	PS4 and STATA PS4 Due TBA PS5 and STATA PS5 Due TBA PS6 and STATA PS6 Due TBA
	Chapter 4 Multiple Regression Analysis: Interference	
	Chapter 5 Multiple Regression Analysis: OLS Asymptotics	
	Chapter 6 Multiple Regression Analysis: future issues	
Week3	Chapter7 Multiple Regression Analysis: with qualitative information: Binary (or Dummy) Variables	PS7 and STATA PS7 Due TBA PS8 and STATA PS8 Due TBA PS9 and STATA PS9 Due TBA PS10 and STATA PS10 Due TBA
	Chapter8 Heteroskedasticity	
	Chapter9 More on Specification and Data Problems	
	Chapter10 Basic Regression Analysis with Time Series Data	
Week4	Chapter11 Further Issues in Using OLS with Time Series Data	PS13 and STATA PS13 Due TBA
	Chapter12 Serial Correlation and Heteroskedasticity in Time Series Regressions	
	Chapter13 Pooling Cross Sections Across Time: Simple Panel Data Methods	
	Reading Day	
	End of Finals Week	