

# ECON 122-20 INTRODUCTION TO ECONOMETRICS

Georgetown University  
Summer 2021

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## Instructor Information

Name: Camila Rodrigues Gomes  
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Office Hours: TBD

## Class Information

Dates: July 12 – August 13  
Time: Monday-Thursday 3:15pm-5:15pm

## Course Description

Econometrics is the name of the quantitative methods for estimating economic relationships, testing economic theories, and evaluating public policies and private decisions. This course will focus on regressions analysis as the primary econometric tool for empirical work in economics, developing the theoretical and the practical aspects of statistical analysis. The objective of the course is to equip students with the necessary knowledge to answer empirical questions they will face in professional and academic settings. The course also aims at laying the foundation for further training in econometrics.

## Prerequisites

Econ-121 and Math-035

## COURSE MATERIALS

- Required Textbook: [W] Jeffrey M. Wooldridge, “Introductory Econometrics: A Modern Approach”, 5<sup>th</sup> or 6<sup>th</sup> edition
- Other references: [SW] James H. Stock and Mark W. Watson, “Introduction to Econometrics”, 3<sup>rd</sup> or 4<sup>th</sup> edition
- Software:  
Stata16 (available from the [Georgetown Software Webstore](#))  
Useful material for learning Stata: <https://stats.idre.ucla.edu/stata/>

## COURSE REQUIREMENTS AND GRADING

Class Participation	10%
Assignments	30%
Midterm (July 22 <sup>nd</sup> )	20%
Final (August 5 <sup>th</sup> )	20%
Final project (August 15 <sup>th</sup> )	20%

- **Assignments:**
  - 3 Quizzes: multiple choice assignments to be completed on Canvas. These are open-book, but they will have to be completed in one hour.
  - 3 Problem Sets: these will require the use of Stata and submission will consist of a Stata file (.do file) and an accompanying written file. You can work in groups to solve the problem sets, but you must submit individual answers.
- **Midterm and final:** both exams will open-book and will consist of theoretical questions. Details about taking midterm and final will be discussed in class. No makeup exams will be offered (unless you are missing an exam due to a university sanctioned event that you inform about well ahead of time). If you need to miss one of the exams, for example, because of a medical or family emergency, you will need to present a signed excuse from Dean or a doctor.
- **Final project:** you will be required to complete an independent data analysis project due the last week of class. I will provide you data set options and you will use it to answer a series of questions about the data using the knowledge and skills built during the course. This is a way for you to leave the course with a concrete analysis project. The project is to be done entirely independently, any discussion or collaboration with classmates or outside students or instructors will result in failure of the project.

## HONOR CODE

The Georgetown Honor Code is in force for this course: Students found in violation of the Honor System are subject to academic sanctions that include, but are not limited to, failure of a course, suspension, dismissal and revocation of degrees conferred." See <http://scs.georgetown.edu/academic-affairs/honor-code/>. In addition, here is a short Youtube video about why you should not cheat: <https://www.youtube.com/watch?v=hMloyp6NI4E>.

## TENTATIVE COURSE OUTLINE

July 12	Review of Probability and Statistics – [W] Append. B
July 13	Review of Probability and Statistics – [W] Append. C
July 14	Simple Linear Regression Model – [W] Ch 2
July 15	Multiple Regression Analysis: Estimation – [W] Ch 3
July 19	Multiple Regression Analysis: Estimation – [W] Ch 3
July 20	Multiple Regression Analysis: Inference – [W] Ch 4
July 21	Multiple Regression Analysis: Inference – [W] Ch 4
July 22	MIDTERM
July 26	Multiple Regression Analysis: OLS Asymptotics – [W] Ch 5
July 27	Multiple Regression Analysis: Further Issues – [W] Ch 6
July 28	Multiple Regression Analysis with Binary Outcome – [W] Ch 7
July 29	Heteroskedasticity – [W] Ch 8
August 2	Specification and Data Issues – [W] Ch 9
August 3	Instrumental Variables – [W] Ch 15
August 4	Instrumental Variables – [W] Ch 15
August 5	FINAL
August 9	Carrying Out and Empirical Project – [W] Ch 19
August 10	Basic Regression Analysis with Time Series – [W] 10
August 11	Basic Regression Analysis with Time Series – [W] 11
August 12	Simple Panel Data Methods– [W] 10