



Master of Science in Applied Economics
ECON644: Empirical Analysis II
(Introduction to Economic Models)
Summer 2022
Wednesday 6:45-9:45 PM

Instructor: Hossein Abbasi Email: abbasi@econ.umd.edu . Office Hours: TBD	Course Page: The course webpage can be found at www.elms.umd.edu . TA: Xue Song XSong1@umd.edu Office hours: See ELMS.
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Course Description and Objectives:

Econometrics applies modern statistical methods to economic problems. It introduces techniques for estimating the effect of one or more explanatory variables on a variable of interest. This course emphasizes practical aspects of estimating econometric models of various types and tests of hypotheses. The objective of this course is to provide students with the knowledge and skills of basic applied econometrics that enables them to understand and critically discuss econometrics analyses and to conduct basic econometrics analyses. Students use Stata to conduct econometrics analyses.

Learning Outcomes:

- Our program has 7 general learning outcomes for students:
 1. Ability to understand, evaluate and analyze economic data
 2. Ability to understand and interpret statistical evidence from economic data
 3. Ability to apply empirical evidence to assessing economic arguments
 4. Ability to apply macroeconomic theories to policy discussions
 5. Ability to apply microeconomic theories to policy discussions
 6. Ability to communicate economic ideas to a broader audience
 7. Ability to evaluate the effectiveness of policy programs using sound economic techniques

The learning outcomes that pertain to this course are: 1, 2, 3, 6, and 7 (partially).

Prerequisites:

This course is the second course in our program's 3-course Empirical Analysis sequence. The pre-requisite for this course is ECON643: Empirical Analysis I.

Structure of the course:

Classes are in-person unless instructed otherwise.
 There are 10 lectures during which I will explain the theory of econometrics and we will practice applications of these theories. The lectures are based on the textbook introduced below.

There are 10 Stata sessions during which you will write Stata codes in do file editors and generate Stata results. The data and instructions will be provided.

Textbooks and other required technology:

You have some of these materials from ECON643, and will use some of them for ECON645.

You should use a computer. A smartphone, notebook, or tablet are not suitable for this course.

We use Stata/BE. The least expensive version of Stata/BE is a six-month license. (Small Stata is not acceptable.)

<https://www.stata.com/order/new/edu/gradplans/student-pricing/>

Textbooks:

Introductory Econometrics: A Modern Approach. Jeffrey M. Wooldridge. South-Western College Pub; 7th edition (ISBN-10: 1337558869)

Data Management Using Stata: A Practical Handbook Second Edition. Michael N. Mitchel (2020), Stata Press
(<http://www.stata.com/bookstore/data-management-using-stata/index.html>)

Policies:

Policies related to all graduate courses at the University of Maryland are posted on this page of the Graduate School's website: <https://gradschool.umd.edu/faculty-and-staff/course-related-policies>

Please familiarize yourself with these policies related academic integrity, non-discrimination policy, accessibility, absences and accommodations, grading, academic standing, grievance procedures, and other important policies.

Here is summary of main policies:

- **Course Website:** Copies of the course syllabus, your grades, and other relevant links and documents will be posted on the course's ELMS/Canvas website. You can access the site via <https://www.elms.umd.edu/>. You will need to use your University of Maryland "directory ID" and password.
- **Email:** The University has adopted email as the primary means of communication outside the classroom, and I will use it to inform you of important announcements. The University creates an "@umd.edu" email address for every graduate student. All official UMD communications will be sent to students at their "@umd.edu" email address. You are responsible for reading your @umd.edu email address, including ELMS/Canvas Announcements I send to the class. You should make sure ELMS/Canvas Announcements and messages are forwarded to an email address that you check regularly. Failure to check email, errors in forwarding email, and returned email due to "mailbox full" or "user unknown" will not excuse a student from missing announcements or deadlines. I will do my best to respond to email within 36 hours.
- **Work Load:** Mastering the material covered in this course requires a significant amount of work outside of class. Students should expect to spend more time outside of class than in class – typically at least twice as much time. The courses in our DC program are 12-week courses that cover all the same material as a traditional semester-long 3-credit course (15 weeks). The compressed schedule makes it possible to complete our degree in just 15 months if you take 2 courses each term. But the compressed schedule also implies an accelerated pace with an average of 25% more work per week in a given course ($15/12 = 1.25$). The normal full-time load in a master's program is 3 courses per semester, or 6 courses per year. The weekly workload when taking 2 of our DC courses per term is equivalent to the load from 2.5 "normal" 15-week courses - so $2.5/3.0 = 83\%$ of a full-time load. However, the DC

program takes just 1 week off between terms. Students who take 2 courses per quarter in our program complete 8 courses per year. So over the course of a year, taking 2 courses per quarter in our DC program is equivalent to 133% of a “normal” full-time load in the traditional semester-based program ($8/6 = 1.33$).

- **Academic Progress:** The graduate school requires that students maintain a GPA of at least 3.0. Students whose cumulative GPA falls below 3.0 will be placed on academic probation by the graduate school. Students on academic probation must ask the program’s director to petition the graduate school if they want to remain in the program. The petition must include a plan for getting the student’s GPA up to at least 3.0. Students who do not live up to their plan can be forced to leave the program without having earned the degree. Note: a grade of "B" corresponds to a GPA of 3.0. A grade of "B-" corresponds to a GPA of 2.7.
- **Academic Integrity:** Do not cheat! The University of Maryland, College Park has a nationally recognized *Code of Academic Integrity* and makes sure to enforce it. The link to the rules regarding students’ conduct including the Honor Code is: <https://studentconduct.umd.edu>. Please ensure that you fully understand this code and its implications because all acts of academic dishonesty will be dealt with in accordance with the provisions of this code.
- **Code of student conduct:** Do not engage in disorderly or disruptive conduct! This is only one of 19 violations of rules of student conduct, and the most relevant one in the classroom! If I see any disruptive conduct, I will have a range of reactions including reducing your class participation points, asking you to leave the classroom, and reporting your behavior to the student conduct office.
- **Excused Absences:** If you miss any class meetings for any reason, it is your responsibility to work with the instructor to make sure you catch up on the missed material. Instructors routinely facilitate things by posting lecture notes, etc. If you need to miss an exam or other graded course requirement because of illness, injury, or some other emergency: Follow doctor's orders and get documentation. Get in touch with the instructor as soon as you’re able – preferably prior to missing the exam or deadline. Communicate with the instructor to make up the course requirement as soon as possible. You are entitled to recover before you make up the course requirement, but you are not entitled to extra days to study beyond the time the doctor's note says you’re incapacitated. If you are incapacitated for more than a week or so beyond the end of the term, your grade in the course will be an “Incomplete”. In such cases you must negotiate a plan with your instructor for completing the course requirements. Once you make up the course requirement the instructor will change your "I" to the appropriate letter grade.
- **School Closings and Delays:** Information regarding official University closing and delays can be found on the campus website and the snow phone line: (301) 405-SNOW (405-7669) The program director will also announce cancellation information to the program as an announcement on the program’s ELMS/Canvas site. This will generally be done by 1:00 p.m. on days when weather or other factors are an issue. When classes need to be canceled during the semester, we make every effort to schedule makeup classes.
- **Counseling:** Sometimes students experience academic, personal and/or emotional distress. The UMD Counseling Center in Shoemaker Hall provides free, comprehensive, and confidential counseling / mental health services that promote personal, social, and academic success. All Counseling Center services are completely free for enrolled students. Proactively explore the range of services available at the Counseling Center, including the Counseling Service and Accessibility and Disability Service described at <http://www.counseling.umd.edu>
- **Graduate Academic Counselor:** The UMD Graduate School also has an academic counselor available to support students who are having difficulty navigating mental health resources on campus, are considering a leave of absence and/or need assistance finding mental health care off campus. The Graduate Academic Counselor also facilitates bi-weekly Graduate Student Circle Sessions which provide an opportunity to learn about resources and connect with other graduate students. Students can learn more about the Graduate Academic Counselor by going to: <https://gradschool.umd.edu/gradcounselor>

- **Accommodations:** Academic accommodations will be offered only for excused absences. An excused absence is an absence for which the student has the right to receive, and the instructor has the responsibility to provide, academic accommodation. The five valid excuses according to university policy are:
 - Religious observances
 - Mandatory military obligation
 - Illness of the student or illness of an immediate family member
 - Participation in university activities at the request of university authorities
 - Compelling circumstances beyond the student's control (e.g., death in the family, required court appearance)

- **Names/Pronouns and Self-Identifications:** The University of Maryland recognizes the importance of a diverse student body, and we are committed to fostering inclusive and equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to both in terms of your name and your pronouns (he/him, she/her, they/them, etc.). The pronouns someone indicates are not necessarily indicative of their gender identity. Visit trans.umd.edu to learn more. Additionally, how you identify in terms of your gender, race, class, sexuality, religion, and dis/ability, among all aspects of your identity, is your choice whether to disclose (e.g., should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed. I will do my best to address and refer to all students accordingly, and I ask you to do the same for all of your fellow Terps.

- **Communication with Peers:** With a diversity of perspectives and experience, we may find ourselves in disagreement and/or debate with one another. As such, it is important that we agree to conduct ourselves in a professional manner and that we work together to foster and preserve a virtual classroom environment in which we can respectfully discuss and deliberate controversial questions. I encourage you to confidently exercise your right to free speech—bearing in mind, of course, that you will be expected to craft and defend arguments that support your position. Keep in mind, that free speech has its limit, and **this course is NOT the space for hate speech, harassment, and derogatory language**. I will make every reasonable attempt to create an atmosphere in which each student feels comfortable voicing their argument without fear of being personally attacked, mocked, demeaned, or devalued. Any behavior (including harassment, sexual harassment, and racially and/or culturally derogatory language) that threatens this atmosphere will not be tolerated. Please alert me immediately if you feel threatened, dismissed, or silenced at any point during our semester together and/or if your engagement in discussion has been in some way hindered by the learning environment.

- **Course Evaluations:** Near the end of the term, you will receive an email inviting you to submit a voluntary and anonymous course evaluation. Your feedback on courses will be very helpful in improving the quality of instruction in our program. .

- **Building access:** There is a smartphone app that can be used to enter our building after normal business hours. The program coordinator will provide information about this. We will also provide information about the code for entering the front door of our suite. Please make sure you are receiving the ELMS-Announcements that we send out to the program about these and other important matters.

- **COVID Policies:** Up-to date information about UMD COVID-19 policies and guidance are posted at <https://umd.edu/4Maryland>

Grading of Assignments:

- **Homework assignments: 20%** (Eight assignments)
There will be eight homework assignments. The assignments and the data sets will be posted on ELMS. Each assignment has two parts: essay part (40% of the assignment score) and Stata part (60% of the assignment score). The Stata part requires uploading a log file. This part will not be graded without the log file.
- **Discussion: (5%)** Each week when we have an assignment, there will be a discussion (on ELMS discussion) about the topic of the week and the assignment. Points will be given for participation (your comment should be relevant)
- **Term Project: 20%**
The goal of this project is to practice working with real data and to provide professional analysis. There will be a project proposal and a final draft (see the due dates below). I will provide comments on the proposal in one-to-one zoom meetings. The details of what I expect and some guidance on how to choose your resources is provided in a separate document.
- **Exams: (midterm: 20%, final exam: 35%)**
 - Exams are mandatory.
 - Exams have two parts: Stata coding (weight: 1/3) and analytical questions (weight: 2/3).
 - Final exam will be comprehensive. More information about the structure of exam will be provided in class.

Grade Breakdown:

At the end of the semester, I will add up each student's course points. This will be a number between 0 and 100. Numerical course grades will be translated into letter grades as follows:

93-100	A	50-59	C+
90-92	A-	40-49	C
80-89	B+	30-39	C-
70-79	B	20-29	D+
60-69	B-	10-19	D
		0-9	F

I might give an A+ to a student or two at the very top of the class's grade distribution.

Tentative Course Outline:

Dates	Topics: Theory	Topics: Stata	Assignments dates (all due in one week)
6/1	Lecture 1: Introduction Chapters 1 and review of probability and statistics	Working with do files and log files, reading and saving data. Data cleaning and filtering. (Mitchel Ch. 4)	
6/8	Lecture 2: Chapter 2: Simple regression model: estimation (2.1, 2.2, 2.3)	Descriptive statistics. Creating new variables (Mitchel Ch. 6)	HW1 (Prob. 3,4 + Comp. C1, C3)
6/15	Lecture 3: Chapter 2: Simple regression model: OLS characteristics (2.4, 2.5, 2.7 (not 2.7a))	Working with data across groups + egen and collapse (Mitchel Ch. 6, 8, 9)	HW2 (Prob. 5, 6 + Comp. C2, C9)
6/22	Lecture 4: Chapter 3: Multiple regression model (3.1, 3.2, 3.3, 3.4, 3.5)	Graphs (Histogram, scatter graph, line graphs, nonlinear curves, and graph options)	HW3 (Prob. 3, 9 + Comp. C3, C11) Term paper proposal due
6/29	Lecture 5: Chapter 4: Hypothesis testing about single population parameter. (4.1, 4.2, 4.3)	Extracting variables from data files, creating new files and merging: (Mitchel Ch. 7)	HW4 (Prob. 3, 4 + Comp. C8, C10)
7/6	Lecture 6: Chapter 4: Hypothesis testing about multiple population parameters (4.4, 4.5)	Regression, prediction, tests, and graphs	HW5 (Prob. 6, 9 + Comp. C9, C11)
7/13	Midterm Exam		
7/20	Lecture 7: Chapter 6: Further issues in regression (6.1, 6.2, 6.3)	Functional forms in regression	HW6 (Prob. 3, 4 + Comp. C7, C13)
7/27	Lecture 8: Chapter 7: Qualitative information (Binary variables) (7.1, 7.2, 7.3, 7.4)	Binary variables in regression	HW7 (Prob. 3, 9 + Comp. C4, C8)
8/3	Lecture 9: Chapter 7 and 17.1: Qualitative dependent variable (7.5, 7.6, 7.7, 17.1)	Binary dependent variables	HW8 (Prob. Ch7. Q5Ch17-Q2 + Comp. Ch7-Q9, Ch17-Q1)
8/10	Lecture 10: Chapter 8: Heteroskedasticity	Models with heteroskedastic errors	
8/17	Final Exam		
8/21 11:59PM	Term Paper due		

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