



**Master of Science in Applied Economics**  
**ECON644: Empirical Analysis II**  
**(Introduction to Economic Models)**  
**Spring 2025**  
**Tydings Hall 2102**  
**Monday 6:30-7:45, 8:00-9:15 PM**

<p><b>Instructor:</b> Hossein Abbasi  <b>Office:</b> Tydings Hall 3127D  <b>Tel:</b> 301-405-4784  <b>Email:</b> <a href="mailto:habbasi@umd.edu">habbasi@umd.edu</a>  <b>Office Hours:</b> Monday 5:30-6:20 PM  (In person and on Zoom)</p>	<p><b>Course Page:</b> The course webpage can be found at <a href="http://www.elms.umd.edu">www.elms.umd.edu</a>  <b>TA:</b> Adam Tucker (<a href="mailto:atucker9@umd.edu">atucker9@umd.edu</a>)  <b>Office Hours:</b></p>
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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, expectations, and workload:

Classes are in-person unless instructed otherwise by the administration.

There are 13 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 12 Stata sessions during which you will write Stata codes in do file editors and generate Stata results. The data (chosen from professional journals' websites) and instructions will be provided.

I expect you to spend quality time on materials we cover and on homework assignments. Homework assignments and exams contain writing Stata code. You should spend quality time working on your coding skills.

**I also expect you to be present during the lectures and participate in in-class discussions and activities.** Missing several sessions heavily impacts your learning and your grade.

In a regular 15-week semester (as in the College Park version of our program): Taking 3 master's-level courses is supposed to approach the time commitment of a full-time job (~36-39 hours per week, so 12-13 hours per week per course). Taking 3 master's-level courses while simultaneously working at a demanding full-time job during the day is not advisable. Students with questions about the workload in this program should speak with one of the program directors.

## 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/profplus/student-pricing/>

(I assume you have a laptop and Stata from your previous courses. If not, please contact me and I will provide you information about buying a laptop that works in this course and about Stata.)

**Stock, James S. and Mark W. Watson:** *Introductory Econometrics*. 4<sup>th</sup> edition (3<sup>rd</sup> edition is also acceptable); Pearson Education, Inc. 2019.

**Mitchel:** *Data Management Using Stata: A practical Handbook*. By: Michael N. Mitchell, Stata Press 2010.

The following books are useful as guides for using Stata.

**Acock:** *A Gentle Introduction to Stata* by: Alan C. Acock, 5<sup>th</sup> Edition; Stata Press 2014.

**Baum:** *An Introduction to Modern Econometrics Using Stata* by: Christopher F. Baum; Stata Press 2006.

## 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 to 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 [www.elms.umd.edu](http://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. Students are responsible for updating their current email address via <http://www.registrar.umd.edu/current/> (Under the first major heading of "Online Transactions" there is a link to "Update Contact Information".) AND for paying attention to messages, I send to the class via ELMS. 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 emails within 36 hours. I will use an announcement on ELMS to communicate with you about the course. Check announcements frequently.
- **Workload:** 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.
- **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, you are still responsible for all material covered during the meeting you missed. 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 to complete 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.
- **UMD Accessibility & Disability Service:** The University of Maryland is committed to creating and maintaining a welcoming and inclusive educational, working, and living environment for people of all abilities. The University of Maryland is also committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of the University, or be subjected to discrimination. The Accessibility & Disability Service (ADS) provides reasonable accommodations to qualified individuals to provide equal access to services, programs and activities. ADS cannot

assist retroactively, so it is generally best to request accommodations several weeks before the semester begins or as soon as a disability becomes known. Any student who needs accommodations should contact ADS as soon as possible so that they have sufficient time to make arrangements. For assistance in obtaining an accommodation, contact Accessibility and Disability Service at 301-314-7682, or email them at [adsfrontdesk@umd.edu](mailto:adsfrontdesk@umd.edu). Information about sharing your accommodation letter, discussing accommodation logistics and getting assistance from ADS staff and more can be found on the ADS website. <https://adsonline.umd.edu/>

- **Counseling:** Sometimes students experience academic, personal and/or emotional distress. The UMD Counseling Center in Shoemaker Hall provides comprehensive and confidential support services that promote personal, social, and academic success. The cost of these services is covered by the fees you already paid when you registered for classes, and there is no additional charge if you use the services. Proactively explore the range of services available 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 accommodation 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)
- **Basic Needs Security:** If you have difficulty affording groceries or accessing sufficient food to eat every day, or lack a safe and stable place to live, please visit UMD's Division of Student Affairs website for information about resources the campus offers you and let me know if I can help in any way.
- **Student Resources and Services:** Taking personal responsibility for your own learning means acknowledging when your performance does not match your goals and doing something about it. I hope you will come talk to me so that I can help you find the right approach to success in this course. Everyone can use some help sharpening their communication skills (and improving their grade) by visiting <https://gradschool.umd.edu/graduate-school-writing-center> and schedule an appointment with the campus Writing Center. You should also know there are a wide range of resources to support you with whatever you might need ([UMD's Student Resources and Services website](#) may help). If you feel it would be helpful to have someone to talk to, visit [UMD's Counseling Center](#) or [Health Center](#).
- **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](http://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 Experience Survey:** Your opinion about the course is important and will be heard. I look forward to receiving your feedback on the course, both during and at the end of the semester. Please submit a Course Experiences Surveys (<https://www.courseexp.umd.edu/>) in order to help faculty and administrators improve teaching and learning at Maryland. All information submitted is confidential.
- **Delayed schedule and campus closure:** Please find the policies in: <https://umd.edu/weather>. I will make announcement about it if it happens.
- **Access to Morrill Hall and Morrill 1102:** Morrill Hall is locked every day from 7:00 p.m. - 7:00 a.m. Your university ID gives you swipe access to the back door of the building. There is keypad access to the door of Morrill 1102. The code will be shared with students by the program coordinator.

## Grading of Assignments:

- **Homework assignments: 25%** (Five assignments, 5% each)  
There will be five homework assignments. In these assignments, a data set and sometimes a research paper, published in a professional journal, along with an instruction/question document will be provided. You are expected to use the data to reproduce some of the results of the paper, and answer questions in the instruction. We will work on these assignments during Stata sessions.  
Each assignment has two parts with separate points: your log file containing your codes and results (50% of the assignment score) to be uploaded on ELMS, and your answers to questions in instruction/question document (50% of the assignment score) to be uploaded on ELMS.  
**ALL ASSIGNMENTS ARE DUE AT 6:30 PM THE DAY WE WORK ON THEM IN CLASS.**
- **Term Project: 20% (The term project will not be graded without a complete log file.)**  
The goal of this project is to practice working with real data and to provide professional analysis. You can pick your topic and collect data, or you can reproduce the results of a published paper. There will be a project proposal and a final draft (see the due dates below). I will provide extensive comments on the proposal in one-to-one meetings. The details of what I expect and some guidance on how to choose your resources along with grading details are provided in a separate document.  
**I will evaluate your reports based on four learning outcomes mentioned in the learning outcome part of the syllabus.**
- **Exams:** (midterm: 25%, final exam: 30%)
  - 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 the 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:

<b>Dates</b>	<b>Topics: Theory (From Stock and Watson)</b>	<b>Topics: Stata</b>	<b>Assignments dates (all due in one week)</b>
1/27	Introduction Chapters 1, 2, 3: review of probability and statistics		
2/3	Chapter 4: Regression with one regressor: estimation	Working with do files and log files, reading and saving data. (Acock, Ch. 4: will be provided)	
2/10	Chapter 4: Regression with one regressor: estimation	Data cleaning and filtering: generating variables and new files. Descriptive statistics, and graphs (Mitchel Ch. 2 and 3)	HW1 (Descriptive statistics and graphs)
2/17	Chapter 5: Regression with one regressor: hypothesis testing	Working on HW1 + egen and collapse (Mitchel Ch. 5)	
2/24	Chapter 5: Regression with one regressor: binary variables	Data cleaning and filtering: generating new files and merging: class size (Mitchel Ch. 6)	HW2 (Filtering data: population policy paper)
3/3	Chapter 6: Regression with multiple regressors: estimation	Working on HW2+graphs	<b>Project proposal (Due 6:30 PM)</b>
3/10	<b>Midterm Exam</b>		
<b>3/16-3/23</b>	<b>Spring break</b>		
3/24	Chapter 6: Regression with multiple regressors: binary variables	Regression: working with scalars and regress command (class size data)	
3/31	Chapter 7: Regression with multiple regressors: hypothesis testing	Data preparation (population policy paper)	HW3 (Paper: population policy paper)
4/7	Chapter 8: Nonlinear functions: quadratic and logarithmic	Working on HW3	
4/14	Chapter 8: Nonlinear functions: interaction and binary	Functional forms (Teacher evaluation data)	HW4 (Paper: teacher gender)
4/21	Chapter 11: Regression with a binary dependent variable	Working on HW4	
4/28	Chapter 11: Regression with a binary dependent variable	Data preparation (oil and talent paper)	HW5 (Paper: oil and talent paper)
5/5	Chapter 9: Assessing studies based on regressions	Working on HW5	
<b>5/12</b>	<b>Final Exam</b>		
<b>5/16</b>	<b>Final draft of term paper due at 11:59PM</b>		

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