University of Maryland   **Prof. Razvan Vlaicu**
Department of Economics   **E-mail:** vlaicu@econ.umd.edu

Class location: 1400 16th St. NW, Washington, DC.   **TA: Hidehiko Matsumoto**
Class time: Thursdays 6.45-9.30pm.   **E-mail:** DCmastersTA@econ.umd.edu
Office hours: By appointment.   **Office hours:** 5.15-6.45pm Thursdays.

SYLLABUS
ECON 644 Empirical Analysis II

Course Objective: This course teaches empirical skills that build up the following abilities.
      Ability to understand, evaluate and analyze economic data
      Ability to understand and interpret statistical evidence from economic data
      Ability to apply empirical evidence to assessing economic arguments
      Ability to communicate economic ideas to a broader audience
The course teaches statistical methods and statistical software used to manage and analyze data. The main goal is to *quantify* how one economic variable (such as someone's education) affects another variable (for instance his wage), apart from other factors like ability, gender, race, marital status. These techniques are used by both academic economists (professors) and professional economists (in business, government, NGOs); academic economists use them, in large part, to test theories and models; professional economists do empirical work to help management with decision making.

Course Description: Three-credit required core course. This is the second in the three-course sequence "Empirical Analysis": ECON 643, ECON 644, ECON 645. The course provides an introduction to econometric methods with applications to public policy analysis. The primary focus is on the application and interpretation of multiple regression analysis.

Prerequisites: ECON 643 Empirical Analysis I.

Course Materials: Two textbooks and one computer program.
   1) *Introductory Econometrics: A Modern Approach*, by J. Wooldridge. (South-Western 2015, 6th Ed.).
   2) *Data Management Using Stata: A Practical Handbook*, by M. Mitchell. (Stata Press 2010). *A Gentle Introduction to Stata*, by A. Acock. (Stata Press 2014, 4th Ed).
   3) *Stata 15.* (StataCorp 2017). See page 5 on how to obtain this program.

Grading: Grades will be computed as follows.

Grade Breakdown		Letter Grades	
Online Discussions	5%	A: 93-100%	C: 40-49%
Eight Assignments (best seven count)	25%	A-: 90-92%	C-: 30-39%
Midterm Exam	30%	B+: 80-89%	D+: 20-29%
Final Exam (cumulative)	40%	B: 70-79%	D: 10-19%
--		B-: 60-69%	F: 0-9%
TOTAL:	100%	C+: 50-59%	

Expectations: (1) prepare for class (i.e., read chapters before class), (2) attend class, and (3) follow up on the class (i.e., do the assigned work by the deadlines).

CLASS SCHEDULE
(**Graded Events** in bold font)

DATE	**TOPIC**		**READINGS**
Thu Nov 30	Intro to Econometrics Stata: Log Files and Do Files		Wooldridge Chapter 1 Acock Chapter 4
Thu Dec 7	Probability Stata: Handling Data **Assignment 1** due		Wooldridge Appendix B Mitchell Chapters 1&2
Thu Dec 14	Statistics Stata: Reading and Writing Data Files **Assignment 2** due		Wooldridge Appendix C Mitchell Chapter 2
Thu Dec 21	Simple Regression: Identification & Estimation Stata: Reading and Writing Data Files **Assignment 3** due		Wooldridge Chapter 2 Mitchell Chapter 2
Thu Dec 28	NO CLASS.		
Thu Jan 4	Multiple Regression: Identification & Estimation Stata: Reading and Writing Data Files **Assignment 4** due		Wooldridge Chapter 3 Mitchell Chapter 2
Thu Jan 11	Multiple Regression: Inference Stata: OLS Estimation of Multiple Regression **Assignment 5** due		Wooldridge Chapter 4
Thu Jan 18	**Midterm Exam**, in class Stata Practice Session	1h30min 1h15min	All of the Above.
Thu Jan 25	Multiple Regression: Modeling Choices Stata: Creating Variables		Wooldridge Chapter 6 Mitchell Chapter 5
Thu Feb 1	Dummy Variables Stata: Estimating Dummy Variable Models **Assignment 6** due		Wooldridge Chapter 7 Mitchell Chapter 5
Thu Feb 8	Heteroskedasticity Stata: Heteroskedasticity Tests, WLS and FGLS Estimation **Assignment 7** due		Wooldridge Chapter 8
Thu Feb 15	Model Misspecification and Measurement Error Stata: Model Specifications **Assignment 8** due		Wooldridge Chapter 9
Thu Feb 22	**Final Exam**, in class, Cumulative.	2h00min	All of the Above.

Weekly Online Discussions: Every week from Friday 9am to Friday 9pm the instructor opens an interactive discussion on Elms. The content is a follow-up on class topics. Students are expected to contribute to the discussion and will be graded on their contribution. The instructor will monitor and guide the discussion.

Deadlines: All assignments are to be submitted electronically on Elms and are due at the beginning of class Thursday 6.45pm. Since answers are handed out at the beginning of class, late submissions are not acceptable. Assignments cannot be rescheduled except in exceptional and documented circumstances; see "University of Maryland Policies" below. The same applies to exams.

University of Maryland 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. You will need to use your University of Maryland "directory ID" and password.

Email: Email is 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.testudo.umd.edu/apps/saddr/ 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 email within 36 hours.

Contact Hours: Three credit courses at the University of Maryland require a minimum amount of contact between instructors and students. Our courses' 12 weekly 3-hour meetings only satisfy 80% of the university's contact requirement. The other 20% is satisfied by weekly mandatory and graded online contact. In principle, the contact hours requirement could be satisfied by scheduling 3 additional 150-minute meetings per term, or 6 additional 75-minute meetings, or 10 additional 45-minute meetings. But in practice the contact hours requirement is satisfied by the weekly online discussions. The weekly online discussions are a more flexible way to ensure that our program's courses in DC provide the same level of student-instructor contact as the traditional 15-week, face-to-face, version of the same course when it is taught on campus in College Park.

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. Students who take 2 courses per quarter in our program complete 8 courses per year. So taking 2 courses per quarter in our program is equivalent to 133% of a full-time load ($8/6 = 1.33$).

Academic Integrity: The University of Maryland has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards applicable to all undergraduate and graduate students, and you are responsible for upholding these standards as you complete assignments and take exams in this course. Please make yourself aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information see www.studenthonorcouncil.umd.edu.

Student Conduct: Students are expected to treat each other with respect. Disruptive behavior of any kind will not be tolerated. Students who are unable to show civility to one another or myself will be referred to the Office of Student Conduct. You are expected to adhere to the Code of Student Conduct.

Excused Absences: The University of Maryland's policy on excused absences is posted here: http://www.president.umd.edu/administration/policies/section-v-student-affairs/v-100g   Please note: 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 – not the instructor's – to get yourself caught up in the course. 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). Since our program is an evening program in downtown Washington, DC, rather than a day program in College Park, we do not always cancel classes on the same days as the College Park campus. The program director will always 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.

Students with Disabilities: The University of Maryland does not discriminate based on differences in age, race, ethnicity, sex, religion, disability, sexual orientation, class, political affiliation, or national origin. Reasonable accommodations will be arranged for students with documented disabilities. Students who have an accommodations letter from the Accessibility and Disability Service (ADS) should meet with me during the first few weeks of the semester to discuss and plan for the implementation of your accommodations. If you require reasonable accommodations but have not yet registered with ADS, please contact the Accessibility and Disability Service at 301-314-7682 or adsfrontdesk@umd.edu.

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.

Building Access: The door to the building at 1400 16th Street is unlocked on weekdays until 7:00 p.m. Students who arrive after 7:00 p.m. or on weekends will find the door locked. The building's security guard is stationed at a desk just inside the door until 11:00 p.m. and will let you in. You can also call the phone on the security guard's desk by dialing (202) 328-5158. If the security guard happens to be away from his or her desk when you arrive, you can pick up the black phone to the right of the door at 1400 16th Street. You will be connected to the company that handles security for our building. If you tell them you are with the University of Maryland, they should ask you for a password. The password is "Drawbridge". When you tell them the password, they will be able to unlock the door for you.

Laptop Computer Requirement: Completing some of this course's requirements will require a laptop computer (not a notebook or a tablet!) with at least 1 GB of RAM and at least 5 GB of free space available on the hard-drive. We recommend laptops with a 15-inch screen. Screens smaller than 13 inches are probably not practical.

Purchasing Stata: Students in our program must purchase Stata. Stata offers different "flavors" and different lengths of licensing. Price varies according to these two factors. We do not recommend Small Stata since it is too limited for the coursework in our program. Stata/IC is the least expensive and sufficient version for your coursework. With a single-user license, you can install Stata on up to three computers. Description of all the flavors are given here:
http://www.stata.com/products/which-stata-is-right-for-me/
You can obtain Stata at discounted rates through the Campus GradPlan, in which University of Maryland, College Park is a participating institution. To benefit from the discounted prices, click on the link below and pick the Stata version you would like to buy. (Note: Disregard the warning at the top which states that you must be a faculty or staff member. That is not correct.)
http://www.stata.com/order/new/edu/gradplans/campus-gradplan/
Through the Campus GradPlan you can buy either an annual ($125 for Stata/IC) or a perpetual license ($198 for Stata/IC). The perpetual license does not expire and is the most cost effective option assuming that you will stay in the program for at least 15 months. There are also upgrade discounts provided to perpetual license holders. During the checkout process you will be asked to verify your "@umd.edu" email address.
If you wish to buy a 6-month license ($75 for Stata/IC), you need to order it as a regular student using the following link:
http://www.stata.com/order/new/edu/gradplans/student-pricing/
During the checkout process you will be asked to upload a copy of your student ID or another document as a proof of your enrollment.