ECON672
PROGRAM ANALYSIS AND EVALUATION

University of Maryland
Winter 2023/24

Syllabus (Version 12/7/2023)
Professor Laura Kawano
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Course meeting: Wednesdays approximately run from 6:45-7:45 and 8:15-9:15pm, VIRTUAL. Asynchronous material will also be provided weekly.
Office hours: Various days 5-6pm, by appointment only via Zoom
Course pre-requisites: ECON 641; ECON 645 is a co- or prerequisite.
TA: Wantian Huang (whuang11@umd.edu)
TA Office Hours: Tuesdays, 5:15-6:15pm

Note: All class meetings other than the midterm and final exam will be via Zoom. Zoom link will be communicated to students as an ELMS-Announcement prior to the first class meeting. Make sure your ELMS-Announcements are forwarding to your @umd.edu email address, and check your @umd.edu email address!

All students are required to take proctored midterm (Wed 1/10) and the final exams (Wed. 2/14). These exams will be administered in our Washington, DC classroom suite at 1400 16th St, NW. See building access details at the end of this syllabus. And please plan accordingly.

Course description: The objective of this course is to learn the tools that are used to evaluate the effectiveness of public policies. A tremendous amount of money is spent on program evaluations, and they are difficult to conduct successfully. We will discuss the economics and econometrics of program evaluation, focusing on both experimental and non-experimental methods used for causal inference. You will learn how to distinguish high from low quality evaluations. We will examine published evaluation research with the intent of showing how research does or does not lead to clear conclusions regarding program performance.

Course objectives: 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, 5, 6, 7*

More specifically, students will:

- Learn the basics of the economics and econometrics of program evaluation, with a focus on hands-on implementation of econometric methods using actual data. This will include an emphasis on applied econometric skills using Stata.
- Critically review the evaluation literature via written comments, formal discussant presentations and general class discussion of published evaluation research with the aim of showing how the process of knowledge creation through research does or does not lead to clear conclusions regarding program effects
- Critically evaluate how research is presented in the public domain (e.g., media) to be a better consumer of reported findings
- Learn the basics of how the evaluation industry functions and how evaluations affect and are affected by policy.

Course materials:
Official text: Angrist, Joshua and Jorn-Steffen Pischke. 2009. *Mostly Harmless Econometrics: An Empiricist's Companion.* Princeton. This is the only required text for this class.

You will also be responsible for all of the journal articles that are listed in the course reading list accompanying lectures. These can be accessed through the library. If you need help obtaining electronic access to articles, the TA can provide assistance.

Recommended text: Cunningham, Scott. 2021. *Causal Inference: The Mixtape.* Yale University Press.

Required software: Stata.

Grading and assignments (% of grade)
Online discussions: due weekly (10% total)
Problem sets: due December 13 and January 24 (20% total)
Midterm exam: January 10 (20%)
Empirical Project: February 7 (20%)
Final exam: February 14 (30%)

Details

Problem sets: There will be two assigned problem sets that will give you independent practice working through basic econometric evaluation estimators and how they are implemented in Stata using real data. You will be asked to estimate econometric models and interpret the results. It is expected that you have a basic understanding of Stata from your previous econometrics courses, and that you are able to utilize Stata help files to learn new code. Your grade will depend both on whether you estimate what you are asked to estimate correctly and how well you interpret the results. Both of these are valuable skills. My experience is that interpretation is the more difficult of these two tasks to master.

You may work together on the problem set, but each student must turn in his or her own version of the assignment. Problem sets and your empirical project will be submitted via ELMS using the "Submit Assignment" button on the relevant assignment's page and uploading the required file(s). Please contact

the TA via email if you encounter any problems. You should turn in two separate documents: one that contains your typed answers to the problem set questions, and another that consists of a well-organized and well-commented Stata log file.

The following books provide useful references for Stata. However, it is entirely possible to learn the necessary Stata code on one's own with resources available online.

Mitchell, Michael N. 2010. *Data Management Using Stata: A Practical Handbook*, Stata Press.
Acock, Alan. 2008. *A Gentle Introduction to Stata, 2nd Edition.* College Station: Stata Press.

Each problem set will be graded out of 100 points.

Online discussions: I will post a question or series of questions relevant to the course material every Friday evening. The discussion will be open until Tuesday at midnight for you to comment/respond. I will check in to participate/respond/redirect. To fulfill this requirement, you may either create your own post in response to my prompt, or else write a substantive response to another student's post that contributes to the discussion. Each discussion session will be graded out of 10 points, with the following benchmarks:

- Participated in and furthered the discussion (10)
- Participated but did not contribute in a meaningful way (5)
- Late or unsubmitted (0)

Empirical Project: An empirical research paper is due at the end of the semester. There will be several preliminary assignments prior to the final due date to encourage you to define your research question, identify data, and report your progress. More information on this project is provided on a separate handout.

Calculation of final grades:
Exams and the empirical project will be graded out of 100 points each. The problem set grade will be computed as the average of your problem set grades. The discussion grade will be computed as the average of your discussion grades over the course.

Your final numerical grade will be calculated by taking a weighted average of these grades. The online discussion component and problem sets are already computed as though weights have been applied to an assignment graded out of 100 points. As stated above, the empirical project has a 20% weight, the midterm exam has a 20% weight, and the final exam has a 30% weight.

At the end of the term, every student will then have a numerical course grade between 0 and 100. I will decide upon the numerical cutoffs between various *letter* grades based on my professional judgement and the distribution of numerical grades. I will also consider absolute standards of academic success. Students who demonstrate clear mastery of course material will get A grades. Students who demonstrate only partial understanding will get B grades. Students who do not demonstrate understanding of the core material will receive B-'s or below. The cutoffs that I use will respect the ordinal ranking of numerical course grades. In other words, letter grades will always be the same or higher as numerical course grades increase.

Schedule of Topics at a Glance (subject to change)

Week	Date	Topic	Assignments & Exams
1	11/29/2023	Course Intro	
1	11/29/2023	The Potential Outcomes Framework	
2	12/6/2023	Experimental Designs	**Empirical Project Assignment #1 Due**
2	12/6/2023	Intro to Quasi-Experimental Designs	
3	**12/9/2023**	Selection on Observables	**Saturday 11:00am – 1:45pm**
3	**12/9/2023**	Matching Methods	
4	12/13/2023	Synthetic Control	
4	12/13/2023	Panel Data	
5	12/20/2023	Difference-in-Differences (DID) Part I	**Problem Set 1 Due** **Empirical Project Assignment #2 Due**
5	12/20/2023	**Short Presentations**	**Short Presentations**
	12/27/2023	NO CLASS	
6	1/3/2024	Difference-in-Differences (DID) Part II	
6	1/3/2024	Instrumental Variables (IV)	
7	1/10/2024	**Midterm Exam**	**Midterm Exam – IN PERSON** **Covers materials through week 5**
8	1/17/2024	**Presentations**	**Empirical Project Assignment #3 Due**
8	1/17/2024	**Presentations**	
9	1/24/2024	**Presentations**	**Problem Set 2 Due**
9	1/24/2024	**Presentations**	
10	1/31/2024	Regression Discontinuity Designs	
10	1/31/2024	Fuzzy RD	
11	2/7/2024	Decomposition Methods	**Empirical Project Due**
11	2/7/2024	Course Review	
12	2/14/2024	**Final Exam** [covers all materials]	**FINAL EXAM – IN PERSON**

Other Standard Policies for the Program and the University of Maryland

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.

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.

Course Website: Copies of the course syllabus, student's grades, and other relevant links and documents will be posted on the course's ELMS/Canvas website. Students can access the site via www.elms.umd.edu. They will need to use their University of Maryland "directory ID" and password.

Contact Hours: Three credit master's-level courses at the University of Maryland require a minimum amount of contact between instructors and students. Our courses' 12 weekly 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 15-week semester. So one should expect the average weekly workload of 3 courses per semester to approach 40 hours per week in the semester-based calendar. So maybe 12 or 13 hours per week per course.

Because the 12-week version of a given course will have 25% more work per week, one should expect

15 hours of work per week for a given 12-week course, and about 30 hours per week when taking 2 courses per term. This is less than "full time" but still a significant commitment, especially if undertaken on top of full time employment.

The DC program takes just 1 week off between each of the 12-week terms. Students who take 2 courses per quarter in our program complete 8 courses per year, and can complete all 10 courses in our curriculum in 15 months.

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.

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.

UMD Counseling Center: 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

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.