COURSE AND CONTACT INFORMATION

Course: PPPA 6013 Regression Methods for Policy Research
Semester: Spring 2024
Time: Wednesdays 3:30-5:20pm and 6:10-8:00pm
Location: Phillips 348 and Phillips B156
Class will sometimes be held on Zoom (see weekly schedule below)

INSTRUCTORS

Professor: Dylan Conger
e-mail: dconger@gwu.edu
Office hours: Tuesdays 1pm-5pm (Note: Faculty are required to post designated time slots but we understand that these time slots are not convenient for everyone. I can also meet outside of this window. Please email me and we will schedule a time.)

Graduate Teaching Assistants: María Luisa Vásquez and Yolanda Heman-Ackah
e-mail: mlvasquezr@gwmail.gwu.edu and ydh2@law.gwu.edu
Time: Thursdays 8:10-10pm and Fridays 3:30-5:20pm
Location: Gov 103 and Rome B104
LAB might be moved to Zoom sometimes (TAs will communicate with class)

COURSE DESCRIPTION AND LEARNING OUTCOMES

Do you want to be a sophisticated consumer and communicator of policy research that relies on quantitative methods? This is the course for you! This course covers multiple regression, a powerful and commonly-used statistical technique for testing the impact of public policies, practices, and programs. The course covers the following topics in particular:

- review of basic statistical concepts;
- overview of the linear regression model;
- issues of specification and functional form;
- assumptions that are required in order for the model to produce valid estimates, including the implications of violating these assumptions; and
- methods for addressing these threats to validity with a focus on techniques for establishing causal relationships between public policies and outcomes.

As a result of the course, you will know how to:

- interpret regression results;
- evaluate the methodological integrity of policy research that relies on regression analyses;
- communicate research that relies on regression analyses; and
- use Stata, a popular statistical software package, to generate regression results.

COURSE REQUIREMENTS

Prerequisites: The course is accessible to students who do not have an extensive mathematical background (e.g. calculus and matrix algebra are not required). Nonetheless, there will be use of algebra throughout the course. The prerequisite for the course is the completion of one graduate course in statistics, such as PPPA 6002 or an equivalent course that covers basic descriptive and inferential statistics.

Optional Text: Studenmund, A.H. *Using Econometrics: A Practical Guide, 7th edition*. There are many standard textbooks that cover multiple regression. Some of these books refer to "regression" and some to "econometrics" or other subfields in statistics. Despite the lack of the word "regression" in the title, this book is essentially a book about regression analysis. I will assign suggested readings Feel free to obtain any version of this textbook that is the least expensive.

Avg. minimum amount of work: You will spend ~2 hours per week on direct instruction and ~5.5 hours per week on independent activities, on average. Over the course of the semester, you will spend up to 7.5 hours in instructional time per week for a total of 112.5 hours for the semester.

ASSIGNMENTS

I provide weekly problem sets that are ungraded. These are aimed at helping you reinforce the material, learn how to use Stata, and help you reach your learning objectives. In addition, you will have the following graded assignments:

- Take home assessment (15%)
- Take home timed midterm exam (25%)
- Take home timed final exam (25%)
- Masters students
    - Group presentation evaluation of article (25%)
    - Peer evaluation of groupmates (5%)
    - Questions for presenters from another group (5%)
- Doctoral students
    - Individual written evaluation of article (35%)

Take home assessment: I will provide this assessment in week 3 and you will submit it just before class in week 4.

Take home exams: Exams are scheduled for 1 hour and 45 minutes and will begin when class starts. I will post the questions and you will submit your answers on Blackboard. You are to complete exams without copying, sharing, or discussing the exam with another person or use of AI. More information will be provided in class.

Evaluation of article: One goal of this course is for you to become a literate consumer and effective communicator of policy research that relies on regression techniques. Toward that goal, masters students will work in groups of up to 4 to prepare a presentation to the class consisting of a

discussion of an article that uses regression techniques. I will select the articles and form the groups. In addition to being assessed on your presentation, you will be asked to evaluate your groupmates and also prepare questions for another group. More explanation will be provided in class. Doctoral students will work individually and prepare written responses to articles (not presentations). The entire review is worth 35% of the grade. More detail for the doctoral student assignment is provided in the GuidelinesforWritingManuscriptReviews.pdf, which can be found in the Files folder on Blackboard. The doctoral student paper is due on 4.10.

STATA

This is a course on multiple regression, not Stata. As a result of taking this course, you will know how to execute basic commands in Stata, which will be a solid foundation for learning more. There are lots of on-line Stata tutorials. Feel free to read them and explore Stata on your own.
GW offers virtual access to Stata through the Columbian Cloud Portal. Go to this site for more info: https://ots.columbian.gwu.edu/virtual-applications-citrix-xenapp. Datasets for problem sets are accessible from the GW Cloud and on Blackboard. Problem sets will include the Stata code and output that you need to complete the assignment. Depending upon your learning style, you may become more proficient in Stata if you attempt the Stata work without the instructions. You may complete the problem sets on your own time if you prefer, either through the GW Cloud or by leasing (or purchasing) Stata for your home computer.

TA/LAB

The TA will be available during the LAB time to answer questions about problem sets and course concepts and assist with Stata. In week 2, the TA will provide a tutorial on how to use Stata. After the first few weeks, the TA might run the sessions through Zoom and provide you the links through Blackboard.

Tips on How to Fully Grasp the Material and Reach your Learning Objectives

- Before class
  - complete the recommended reading
  - watch any recommended prerecorded lectures before class
  - check out the problem sets to see if you can answer any questions
- During class
  - bring a calculator and scratch paper
  - take notes
  - do all practice problems during class
  - ask questions!
- Problem sets
  - do the problem sets without looking at the answer sheet so that you can determine how well you understand the material
  - search the internet for clarification of concepts that you might not grasp initially
  - once problem set is complete, carefully review answer sheets and review concepts that gave you trouble
- Research article

    - read your paper several times
    - google the topic to get more familiar with the policy landscape
    - meet regularly with your group (if a group project) to go over each of the components of the assignment
    - divide up the work evenly
    - prepare slides at least a week in advance so that all the team members have an opportunity to review them
    - rehearse your presentation
- Overall
    - attend sessions with TA and bring questions
    - focus more on learning concepts and less on learning how to use Stata. Stata is only useful if you have a full grasp of the material. You will not be tested on your ability to execute a Stata command
    - watch recordings of lectures
    - review all problem sets, practice problems during the lectures, and review sheets provided for the exams
    - connect with classmates through class, lab, or online (e.g., Groupme)
    - treat take home exams like you would an in person exam- prepare extensively
    - reach out to me if you want to go over some of the material or if you are struggling in general

GRADES AND EXPECTATIONS

A (Excellent): Exceptional work for a graduate student. Shows a strong command of the material.

A- (Very Good): Very strong work for a graduate student. Shows signs of a solid understanding of appropriate analytical approaches and meets professional standards.

B+ (Good): Sound work for a graduate student. This grade indicates the student has fully accomplished the basic course objectives.

B (Adequate): Competent work for a graduate student with some evident weaknesses. Demonstrates competency in the key course objectives but the understanding or application of some important issues is less than complete.

B- (Inadequate): Weak work for a graduate student. Understanding of key issues is incomplete.

Grades below B- indicate extremely weak performance and insufficient grasp of the material. A cumulative GPA of B- or below will lead to academic probation.

SESSIONS AND RECORDINGS

Sessions will be recorded and made available on Blackboard under *GWU Lecture Capture*. Recordings are for course purposes only and shall not be copied nor shared in part or in full outside of the class. This protects the safety and privacy of the classroom environment.

WEEKLY SCHEDULE

Date	Week	Topic	Suggested readings from book	Assignment (blue are graded)
1.17	1	Intro to class and review of intro stats		PS 1
		TA to assist with PS 1		
1.24	2	Basics of regression	1, 3	PS 2
		TA to assist with PS 2		
1.31	3	Intro to OLS	2,4	Take home assessment provided
		TA to assist with take home assessment		
2.7	4	Interval estimation and hypothesis testing	5	Take home assessment due PS 3
		TA to assist with PS 3		
2.14	5	Logarithmic equations	7.2	PS 4
		TA to assist with PS 4 and prep for midterm		
2.21	6	NO CLASS MEETING		Midterm exam
		NO TA HOURS		
2.28	7	Polynomials and interactions	7.2, 7.4, 7.5, 13.1	PS 5
		TA to assist with PS 5		
3.6	8	Specification and bias	6	PS 6
		TA to assist with PS 6		
3.20	9	Fixed effects and binary dependent variables		PS 7
		TA to assist with PS 7		
3.27	10	Panel data and models	16	PS 8
		TA to assist with PS 8		
4.3	11	Standard errors	8, 9, 10	PS 9
		TA to assist with PS 9		
4.10	12	Presentations **(Zoom)**		Presentations and doctoral student review
		NO TA HOURS		
4.17	13	Presentations **(Zoom)**		Presentations
		NO TA HOURS		
4.24	14	Review for final		
		TA to assist with prep for final		
5.8	15	Final exam		Final exam

POLICIES AND PROCEDURES FOR THIS COURSE

University policy on observance of religious holidays
In accordance with University policy, students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance. For details and policy, see: provost.gwu.edu/policies-procedures-and-guidelines

Academic Integrity Code
Academic Integrity is an integral part of the educational process, and GW takes these matters very seriously. Violations of academic integrity occur when students fail to cite research sources properly, engage in unauthorized collaboration, falsify data, and in other ways outlined in the Code of Academic Integrity. Students accused of academic integrity violations should contact the Office of Academic Integrity to learn more about their rights and options in the process. Outcomes can range from failure of assignment to expulsion from the University, including a transcript notation. The Office of Academic Integrity maintains a permanent record of the violation. More information is available from the Office of Academic Integrity at studentconduct.gwu.edu/academic-integrity. The University's "Guide of Academic Integrity in Online Learning Environments" is available at studentconduct.gwu.edu/guide-academic-integrity-online-learning-environments. Contact information: rights@gwu.edu or 202-994-6757.

Support for students outside the classroom

Academic Commons
Academic Commons provides tutoring and other academic support resources to students in many courses. Students can schedule virtual one-on-one appointments or attend virtual drop-in sessions. Students may schedule an appointment, review the tutoring schedule, or access other academic support resources at academiccommons.gwu.edu. For assistance contact academiccommons@gwu.edu.

Disability Support Services (DSS) 202-994-8250
Any student who may need an accommodation based on the potential impact of a disability should contact Disability Support Services to establish eligibility and to coordinate reasonable accommodations. disabilitysupport.gwu.edu

Counseling and Psychological Services 202-994-5300
GW's Colonial Health Center offers counseling and psychological services, supporting mental health and personal development by collaborating directly with students to overcome challenges and difficulties that may interfere with academic, emotional, and personal success. healthcenter.gwu.edu/counseling-and-psychological-services

Safety and Security
Monitor GW Alerts and Campus Advisories to Stay Informed before and during an emergency event or situation. In an emergency: call GWPD 202-994-6111 or 911. For situation-specific actions: review the Emergency Response Handbook at safety.gwu.edu/emergency-response-handbook.

Classroom Expectations
Higher education works best when it becomes a vigorous and lively marketplace of ideas in which all points of view are heard. Free expression in the classroom is an integral part of this process and works best when all of us approach the enterprise with empathy and respect for others.

GW Statement on Diversity and Inclusion
Diversity is crucial to an educational institution's pursuit of excellence in learning, research and service. In pursuit of those goals, a population of students, faculty, and staff with differing perspectives, backgrounds, talents, and needs can lead to a richer mix of ideas, energizing and enlightening debates, deeper commitments, and a host of educational, civic and work outcomes. Leveraging diversity is rarely achieved by accident. As individuals and as an institution we must intentionally act to create the diverse and inclusive community that enables everyone to flourish. All members and units of the GWU community must advance the institution's commitment to diversity and inclusion as a strategic priority.

Incompletes
A student must consult with the instructor to obtain a grade of "I" (incomplete) no later than the last day of classes in a semester. At that time, the student and instructor will both sign the CCAS contract for incompletes and submit a copy to the School Director. Please consult the TSPPPA Student Handbook (found on the Trachtenberg School website) or visit https://columbian.gwu.edu/sites/columbian.gwu.edu/files/downloads/Incomplete%20Contract.pdf for the complete CCAS policy on incompletes.

Submission of Written Work Products after Due Date: Policy on Late Work
All work must be turned in by the assigned due date in order to receive full credit for that assignment, unless an exception is expressly made by the instructor.

Changing Grades after Completion of Course
No changes can be made in grades after the conclusion of the semester, other than in cases of clerical error.

The Syllabus
This syllabus is a guide to the course for the student. Sound educational practice requires flexibility and the instructor may therefore revise content and requirements during the semester.