Research Methods/Crime Analysis
(a.k.a. "the thesis class")
CRIM 603
University of Pennsylvania
Spring 2021

Lecture
Wednesday, 2:30-5:30 EST
Via Zoom

Instructor
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Course Description
This course provides additional training in research design and inferential statistics as well as conceptual, logistical, programming and moral support to students writing the M.S. thesis in the Department of Criminology.

Student projects culminate with an oral class presentation and the submission of a written thesis. Students will be expected to demonstrate the ability to:

1) design and execute an original analysis of quantitative data
2) use statistical softwae and your knowledge of basic statistics to perform simple multivariate analyses of quantitative data
3) generate and test hypotheses using primary or secondary data
4) select, apply, and interpret appropriate descriptive statistics
5) understand the ways in which statistics can be misapplied or misinterpreted to permit false conclusions, often in support of erroneous or biased positions
6) engage in dialogues with social science researchers about interpretations of current research findings and important directions for further inquiry
7) conduct a scientifically sound briefing accessible to both an academic audience and criminal justice practitioners

Course Readings
In lieu of a formal textbook, readings will be comprised of:

- Lecture notes covering hypothesis testing and regression analysis which I have written myself specifically for students in the M.S. program

- Book chapters from *Causal Inference: The Mixtape* by Scott Cunningham (available for free in pdf form)

I also recommend that you to read *Made to Stick* by Chip and Dan Heath: https://www.amazon.com/Made-Stick-Ideas-Survive-Others/dp/1400064287/ref=sr_1_1?dchild=1&keywords=made+to+stick&qid=1608237797&sr=8-1

Evaluation
Your course grade will be based on your written M.S. thesis (85%) as well as an in-class presentation of your project (15%). Throughout the semester, students will be expected to regularly meet with me to ensure that they are making adequate progress.

Academic Integrity
Students are expected to abide by the University of Pennsylvania Code of Academic Integrity, which is contained below. Additional information about expected standards of intellectual honesty can be found here: http://www.upenn.edu/academicintegrity/index.html

Since the University is an academic community, its fundamental purpose is the pursuit of knowledge. Essential to the success of this educational mission is a commitment to the principles of academic integrity. Every member of the University community is responsible for upholding the highest standards of honesty at all times. Students, as members of the community, are also responsible for adhering to the principles and spirit of the following Code of Academic Integrity.

Academic Dishonesty Definitions
Activities that have the effect or intention of interfering with education, pursuit of knowledge, or fair evaluation of a student's performance are prohibited. Examples of such activities include but are not limited to the following definitions:
A. Cheating: Using or attempting to use unauthorized assistance, material, or study aids in examinations or other academic work or preventing, or attempting to prevent, another from using authorized assistance, material, or study aids. Example: using a cheat sheet in a quiz or exam, altering a graded exam and resubmitting it for a better grade, etc.
B. Plagiarism: Using the ideas, data, or language of another without specific or proper acknowledgment. Example: copying another person's paper, article, or computer work and submitting it for an assignment, cloning someone else's ideas without attribution, failing to use quotation marks where appropriate, etc.
C. Fabrication: Submitting contrived or altered information in any academic exercise. Example: making up data for an experiment, fudging data, citing nonexistent articles, contriving sources, etc.
D. Multiple submissions: submitting, without prior permission, any work submitted to fulfill another academic requirement.
E. Misrepresentation of academic records: Misrepresentation of academic records: misrepresenting or tampering with or attempting to tamper with any portion of a student's transcripts or academic record, either before or after coming to the University of Pennsylvania. Example: forging a change of grade slip, tampering with computer records, falsifying academic information on one's resume, etc.
F. Facilitating Academic Dishonesty: Knowingly helping or attempting to help another violate any provision of the Code. Example: working together on a take-home exam, etc.
G. Unfair Advantage: Attempting to gain unauthorized advantage over fellow students in an academic

exercise. Example: gaining or providing unauthorized access to examination materials, obstructing or interfering with another student's efforts in an academic exercise, lying about a need for an extension for an exam or paper, continuing to write even when time is up during an exam, destroying or keeping library materials for one's own use., etc.

*** If a student is unsure whether his action(s) constitute a violation of the Code of Academic Integrity, then it is that student's responsibility to consult with the instructor to clarify any ambiguities.**

Plan for the Semester

During the first six weeks of the semester, I will provide weekly training in statistics and research methods that will be helpful and, in most cases, critical for carrying out your chosen research projects. We will generally spend the first half of class learning the essential mechanics of the most important research designs in the empirical social sciences. During the second half of the class, David will teach you how to actually program things up in practice using *R* statistical software. There will be lots of hands-on examples.

Week #1	January 20th	Introduction to the M.S. Thesis / Review of Hypothesis Testing
Week #2	January 27th	Ordinary Least Squares Regression: Introduction
Week #3	February 3rd	Ordinary Least Squares Regression: Applications
Week #4	February 10th	Differences-in-Differences Estimators
Week #5	February 17th	Regression Discontinuity Designs
Week #6	February 24th	Miscellaneous Topics: Poisson Regression/Geocoding Data

After Wednesday, February 24th, I anticipate that class meetings will be converted to office hours so that David and I can provide you with individualized support in carrying out your thesis projects, each of which will be very different and will require different types of guidance.

Week #7	March 3rd	Class converted to office hours
Week #8	March 17th	Class converted to office hours
Week #9	March 24th	Class converted to office hours
Week #10	March 31st	Class converted to office hours
Week #11	April 7th	Class converted to office hours

We will reserve the final three weeks for class presentations where each of you will present your thesis project.

Week #12	April 15th	Class presentations #1
Week #13	April 22nd	Class presentations #2
Week #14	April 29th	Class presentations #3

Other Important Dates

(subject to change as needed)

April 7th	Draft thesis due
April 15th-April 29th	Class presentation of thesis
April 29th	Final thesis due