

COURSE SYLLABUS
API-202I, Empirical Methods II
Spring 2018, MW 10:15 AM - 11:30 AM

Section	Instructor	Classroom	Office	Office Hours	Review Session
API 202I	Anders D. Jensen	Rubenstein 306	R328	See Web link Below	Friday, 11:30-1:00

Teaching Fellow: Abraham Holland, Holland@fas.harvard.edu

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COURSE DESCRIPTION

The purpose of this course is to equip you with the tools necessary to tackle issues that involve the empirical analysis of public policy problems of the sort you might encounter in a professional environment. Specifically, the course introduces you to the use of multiple regression analysis and program evaluation for analyzing data in the social sciences. The emphasis is on empirical applications.

The course is designed with twin objectives in mind. The first is to provide you with the ability to analyze critically the empirical analysis done by others at a level sufficient to make intelligent decisions about how to use that analysis in the design of public policy. The second is to provide you with the skills necessary to perform empirical policy analysis on your own, or to participate on a team involved in such an empirical analysis. An important segment of the course focuses on program evaluation. This includes both the design and analysis of experiments that aim at measuring policy effectiveness and the use of non-experimental methods to evaluate policy effectiveness. The course will cover the same analytical tools and concepts as the other API-202 sections. However, since the I-section is exclusive to MPP students interested in the International and Global Affairs (IGA) policy area of concentration, it will cover empirical questions, topics, examples, and data exercises that are relevant (although not exclusively so) for IGA. For example, this may include empirical investigations of questions such as: Does democracy lead to more redistribution? Does schooling increase political participation of citizens? Can mass media expose and reduce corruption? Does the gender of a policy-maker matter for the allocation of public goods? Does taxation increase accountability? Thus, although this is primarily a methods course aimed at acquiring generalizable tools, we will approach them through the lens of specific empirical questions.

PREREQUISITE

Knowledge of statistics at the level of API-201 is required. Part of a four course integrated cohort tailored to the needs of MPP students interested in the International and Global Affairs (IGA) policy area of concentration. Participation in this integrated cohort is required for prospective IGA concentrators.

TEXTBOOKS

Stock, J. and Watson, M., *Introduction to Econometrics, 2nd edition*, Addison-Wesley (2007) is a highly recommended reference. Several copies are on reserve in the library.

Angrist, J. and Pischke, J-S., *Mastering 'Metrics*, Princeton University Press (2015) provides a good introduction to causal inference.

GRADING

Problem Sets: 10%

Midterm Exam:	30%
Final exercise:	20%
Final Exam:	40%

The resulting number will be translated into grading categories using the HKS recommended grade distribution:

A:	10-15%
A-:	20-25%
B+:	30-40%
B:	20-25%
B- or lower:	5-10%

PROBLEM SETS

- 1.) You are expected to turn in answers to the problem sets. Problem sets will be graded with simple scales by the course assistants. Detailed answers will be posted for you to review.
- 2.) To receive credit, problem sets must be submitted by the start of class on the day they are due.
- 3.) You may work on the problem sets in small groups. You must, however, write up your answers individually, in your own words. Put the names of your study group member(s) on your problem set. Duplicate answers will receive no credit and will be subject to disciplinary review.
- 4.) Stata, a statistical software package, is available both in the computer lab and from Harvard. The tutorial at http://www.cpc.unc.edu/research/tools/data_analysis/statatutorial is particularly good. Read the "A simple example" through "Changing the data" sections before attending our introductory Stata sessions.

CLASS PARTICIPATION AND ENGAGEMENT

We strongly believe that student participation can substantially enrich the learning experience for both the students and the instructor. In this spirit, class participation is encouraged. Effective class participation requires that you read any assigned readings *before* coming to class. You are encouraged to ask questions, to share relevant insights you have from previous experiences, and to treat your classmates' participation with courtesy. We only ask that questions and comments be brief and related to the topic at hand. Given that this is a large class, we will sometimes need to defer questions to a future class or office hours. If you are on the margin between receiving two final grades, we will use the quality of your class participation to help determine which of the two grades you receive.

FINAL EXERCISE

The final exercise will require you to apply some of the empirical methods learned in class to a data set relevant to some major public policy issue. More details will be provided later in the course.

REGRADE POLICY

To submit a regrade request for an exam, submit the exam along with a clear statement of your concerns within two business days of the return of the graded exams. Note that your entire exam will be re-graded, which implies that your total exam score may increase or decrease.

ACADEMIC INTEGRITY

All course activities, including class meetings, homework assignments, and exams are subject to the HKS Academic Code and Code of Conduct. Note that discussion and the exchange of ideas are essential to academic work. For assignments in this course, you are encouraged to consult with your classmates. However, you should ensure that any written work you submit for evaluation is the result of your work and that it reflects your own approach and understanding of the topic.

COURSE SCHEDULE

Date	Topic	Stock & Watson, 2 nd Edition	Angrist & Pischke	Assignments Due
LINEAR REGRESSION				
1/22	How evidence informs policy			
1/24	Causality and validity	1.2, 9.1, 9.2., 9.4		
1/29	Multivariate Regression	4.1, 4.2, 5.1, 5.2, 6.2, 6.3	2.1, 2.2	
1/31	Omitted variable bias	6.1, 9.2	2.3	Problem Set 1
2/5	Dummy variables	5.3		
2/7	Case study			Problem Set 2
NON-LINEAR REGRESSION				
2/12	Binary dependent variables	11.1, 11.2		
2/14	Logarithms and quadratics	8.2		
2/21	Interactions	8.3		
2/26	Midterm exams (in class)			
EXPERIMENTS				
2/28	Field experiments	13.2	1	
3/5	Case study			Problem Set 3
QUASI-EXPERIMENTS				
3/7	Instrumental variables	12.1, 12.3	3	
3/19	Case study			
3/21	Fixed effects	10.3, 10.4		
3/26	Difference-in-difference	13.4	5	
3/28	Case study			Problem set 4
4/2	Final exercise work time			
4/4	Regression discontinuity		4	Problem set 5
4/9	Case study			
4/11	Final exercise discussion			Final exercise
5/4	Final Exam (2-5 PM)			

