

# PoliSci U

## Consortium for Graduate Political Methodology Training

<https://polisci.osu.edu/graduate/current-students/PoliSciU-advanced-methodology>

Indiana University, Ohio State University, University of Illinois, University of Minnesota,  
and University of Wisconsin

### Fall 2020

#### “Bayesian Analysis”

Alex Tahk, University of Wisconsin, [atahk@wisc.edu](mailto:atahk@wisc.edu)

Wednesdays 1:30-3:30 pm

Start date: September 2, 2020

Course Description: This is a course on Bayesian statistics with applications to the social sciences. Bayesian statistics offers an alternative framework to maximum likelihood and other frequentist approaches to estimation and inference. With the huge increases in computational power over the last two decades, Bayesian statistics has become increasingly important and common in political science and other fields. It offers both philosophical and theoretical advantages, but its current popularity has primarily been due to practical advantages, as modern Markov-chain Monte Carlo methods and associated software can make estimation of many complex or otherwise difficult-to-estimate models quite practical.

### Spring 2021

#### “Mechanism Design”

Rob Carroll, University of Illinois, [rjc@illinois.edu](mailto:rjc@illinois.edu)

Start date: January 19, 2021

Course Description: How do we create good political institutions---that is, institutions that generate good outcomes in anticipation of strategic actors' responses to the associated incentives? This is the problem of mechanism design. Thanks to the development of an impressive bevy of tools over the past few decades, it has become possible to provide rigorous solutions to many mechanism design problems, and many of these solutions have generated enormous real-world benefits. In this course, we will survey the foundational tools in the reverse game theorist's kit. Along the way, we will see that many of these tools allow us to study qualitative classes of games with relative ease, so that the theory has both normative and positive implications. Students should come in with a grasp of game theory and its basic equilibrium concepts. Some familiarity with incomplete-information game theory is preferred, though the dedicated student should be able to remedy any deficiencies in this area.

#### “Research Methods in Political Science”

Armando Razo, Indiana University, [arazo@indiana.edu](mailto:arazo@indiana.edu)

Tuesdays 1:00-3:00

Start date: January 19, 2021

Course Description: This class teaches doctoral students how to conduct empirical research, and how to communicate research projects and empirical findings to professional audiences. The first half of the semester includes two modules to help students develop a solid research skills foundation through discussions of conceptual and empirical readings, supplemented with analytical exercises to hone research skills. In a first module, students will learn how to define relevant political knowledge in terms of concepts and variables, which facilitate the formulation of research questions and hypotheses amenable to empirical analysis. A second module offers an overview of contemporary approaches to causal inference, including three families of research designs that span common quantitative and qualitative methodologies. The second half of the seminar is a practicum module about the process of conducting research, with a focus on motivating research projects and sharing empirical findings through written and oral presentations.