## **Experimental Methods**

## Spring 2024

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## **1** Course Description and Objectives

Short description: Experimental methods in the social sciences, with specific application to political science. Covers the logic of experimentation and how experiments can be used to investigate social phenomena. Interpret, design, execute and analyze experiments. For UW-Madison students: This course is a 3-credit graduate seminar (class # 47808) and a traditional course according to the Carnegie definition (i.e. at least 1 hour of classroom instruction and 2 hours of out-of-class student work each week).

*Overview* It introduces graduate students to experimental methods in the social sciences, with specific application to political science. We will discuss the logic of experimentation, its strengths and weaknesses compared to other methodologies, and how experiments can be used to investigate social phenomena. Students will learn how to interpret, design, execute and analyze experiments. Each session of the course will be a combination of discussion guided by students, some mini-lectures where appropriate and small group work. We will cover potential outcomes and the statistical intuitions behind experiments, the ethics of experimentation, different types of experiments (e.g., survey, field and lab) as well as practical issues such as statistical power, pre-analysis plans, studying mechanisms and dealing with confounding.

The main project will be an experiment that you will motivate and design and for which you will write a short paper and accompanying pre-analysis plan. This project must be done in groups of 2-4 students (no solo projects).

Students who closely and carefully engage course readings, attend and participate in class discussion, and complete course assignments will be able to:

- Explain important concepts and arguments made by prominent scholars in causal inference and experimental methods
- Design, analyze and field experiments suited to your own particular research question
- Understand and explain the ethical debates that surround experimental research
- Assess varied types of experimental designs on several dimensions
- Apply course concepts to analysis of current research and contemporary social scientific debates