In this course, you will learn how to design, implement, and analyze experiments in political science. The course is loosely organized into three sections. We will start by considering experimental design – discussing the key virtues of experimental research and then how to best achieve strong experiments in practice. The second unit focuses on the varieties of experiments common to political science – including laboratory experiments, natural experiments, field experiments, and survey experiments. We will consider the characteristics of each, and along the way, address some of the challenges associated with the implementation of experiments, such as attrition, effective randomization, and spillover effects. The third section is devoted to the empirical analysis of experimental results. We will cover the analytical tools common to experimental research and address issues of mediation as well as modeling heterogeneous treatment effects.

The class will be run as a workshop where each student will design and implement an experiment that will be conducted on Amazon’s Mechanical Turk. During the first weeks of class, you will design an experiment (related to your own particular substantive interests) and we use parts of each class session giving feedback on how to improve that design (against the backdrop of the particular topic we are covering). The second unit on the implementation of experiments will overlap with the implementation of your experiments – as you secure approval from Colorado’s Institutional Review Board and design your experimental modules in Qualtrics. If all goes well, you should hopefully have your experimental data in hand in April to apply the lessons from the third unit on experimental analysis.

**readings for the course**

Journal articles are accessible through the library’s website, while book chapters will be accessible through the course website.

**REQUIRED TEXTS:**


**RECOMMENDED TEXTS:**

Dunning, Thad. 2012. *Natural Experiments in the Social Sciences.* Cambridge: Cambridge University Press. (also available as an e-book via the library's website)
D2L is your friend

This syllabus, assignments, data sets, and other exciting material can be accessed on the class website on learn.colorado.edu.

requirements

HOMEWORK AND PARTICIPATION (60% of your final grade)

You are expected to attend and actively engage in class.

Most weeks, you will be responsible for a homework assignment designed to help you practice and apply the skills learned in class. Some of these assignments will be written memos while others will be designed as problem sets. While you are welcome to consult with your classmates on the homework assignments, the final work that you turn in must be your own. Late homework assignments will not be accepted.

RESEARCH PAPER (40% of your final grade)

You will also develop a research paper based on the experiment you develop, design, and implement over the course of the semester. In style, this paper should resemble the journal articles you have read in your classes. The research paper will be due the last week of the class. Additional guidelines will be detailed in a separate handout.

special accommodations

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. You can contact the Disability Services office for more information at www.colorado.edu/disabilityservices.

some important comments on academic integrity

- Plagiarism and other academic dishonesty will not be tolerated. If you are not familiar with the rules of citing sources in written work or what constitutes plagiarism, you should contact me or refer to the University Honor Code at honorcode.colorado.edu. Academic dishonesty will result in an F in the course and referral to the Honor Court for additional non-academic sanctions.

- All papers are expected to be original work, not previously or simultaneously handed in for credit in another course (unless prior approval of all instructors involved is obtained).
PSCI 7108 course schedule

1. why use experiments?
   **Tuesday, January 14**
   - Morton and Williams, chapters 1 and 2.

2. causal inference
   **Tuesday, January 21**
   - at least one of the following and ideally two or more:
     - Morton and Williams, chapter 3.

3. internal and external validity
   **Tuesday, January 28**
   - another option instead of Shadish, Cook, and Campbell: Morton and Williams, chapter 7.

4. recruitment, ethics, & practical considerations
   **Tuesday, February 4**
   - Morton and Williams, read chapters 8-10, skim or read chapters 11-13.
5. other considerations in experimental design

Tuesday, February 11


6. laboratory experiments (and replicability)

Tuesday, February 18


7. natural experiments (and randomization)

Tuesday, February 25

- if you have time: Morton and Williams, chapters 4 and 5.
8. field experiments (and noncompliance)

Tuesday, March 4


9. survey experiments (and spillover effects)

Tuesday, March 11


10. analyzing experimental results

Tuesday, March 18


SPRING BREAK

Tuesday, March 25

11. analysis of variance

Tuesday, April 1

12. nonparametric models and randomization tests

Tuesday, April 8


13. heterogeneous treatment effects

Tuesday, April 15


14. mediation in experiments

Tuesday, April 22


15. presentations of experimental results

Tuesday, April 29