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 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 the university’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 November 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?
MONDAY, AUGUST 22
The history of experimental research in political science, the value of experimentation

2. causal inference
MONDAY, AUGUST 29
The importance of causality, potential outcomes framework, randomization
- At least one of the following and ideally two or more:

3. internal and external validity
MONDAY, SEPTEMBER 12
Understanding what it means to do valid research, designing treatments and measures
  - or as an alternative to Shadish, Cook, and Campbell: Morton and Williams, chapter 7.
4. conducting experiments

MONDAY, SEPTEMBER 19
More on manipulations, identifying experimental participants, concerns about convenience samples

- Morton and Williams, chapters 8-10.

5. implementing experimental research

MONDAY, SEPTEMBER 26
Sample size calculations, block randomization, deception, ethics in experimentation

- Morton and Williams, chapters 11-13.

6. laboratory experiments (and replicability)

MONDAY, OCTOBER 3
The virtues of laboratory experiments, as well as discussions of experimental generalizability and replicability

- Coppock, Alexander, and Donald P. Green. 2015. “Assessing the Correspondence between Experimental Results Obtained in the Lab and Field: A Review of Recent Social Science Research.” Political Science Research and Methods 3:113-131.
7. natural experiments (and randomization)

MONDAY, OCTOBER 10

Identifying natural experiments, as well as discussion of the consequences of imperfect randomization


8. field experiments (and noncompliance)

MONDAY, OCTOBER 17

Why everyone loves field experiments, how to do them, as well as how to deal with noncompliance


9. survey experiments (and spillover effects)

MONDAY, OCTOBER 24

Survey experiments, list experiments, conjoint analysis, as well as concerns about spillover effects

10. **analyzing (and reporting) experimental results**

**MONDAY, OCTOBER 31**

*Reporting the results of your experiment, manipulation checks, balance tests*


11. **analysis of variance**

**MONDAY, NOVEMBER 7**

*Parametric tests and ANOVA*


12. **nonparametric models and randomization tests**

**MONDAY, NOVEMBER 14**

*Randomization tests and nonparametric tools*

fall break
MONDAY, NOVEMBER 21

13. heterogeneous treatment effects
MONDAY, NOVEMBER 28
Heterogeneous treatment effects, conditional experimental effects

14. mediation in experiments
MONDAY, DECEMBER 5
We may end up doing presentations this week instead.