Course overview: In this workshop, we will discuss the logic of experimentation, its strengths and weaknesses compared to other methodologies, and the ways in which experimentation has been -- and could be -- used to investigate political, social, and economic phenomena. Emphasis will be placed on field experiments, randomized trials conducted in real-world settings. Examples will be drawn from a broad array of disciplines.

After describing the attractive statistical properties of experiments, we consider a variety of potential threats to core assumptions. In particular, we consider the complications that arise when (1) treatment and control conditions different in systematic ways other than the intended treatment, (2) treatments are not administered according to the randomly assigned plan, (3) subjects are affected by the treatments assigned or administered to others, and (4) outcome measures are not obtained for all subjects. In each case, we discuss possible statistical and design solutions. We conclude by discussing the practical issues that arise when conducting experiments in field settings.

In an effort to help participants with their own research, the two instructors are happy to meet before (breakfast), during (lunch), and after (drinks, dinner) class to discuss participants’ experimental projects.

The primary text for the course is


This textbook (FEDAI for short) is too extensive to be covered in just three days, but we will make our way through much of the first half, which covers core topics.

Supplementary readings are designed to illustrate the wide range of experimental applications. They will be provided to students via email or Dropbox. Further readings are available on request.

The planned schedule of the course is as follows. Each day is divided into two sessions,
morning and afternoon.

**Day 1, Session 1.** What are experiments? Why conduct experimental research?

FEDAI: Chapter 1.

**Day 1, Session 2.** Experiments and Models of Potential Outcomes

FEDAI: Chapter 2. In addition, read these brief research articles that highlight certain core assumptions that underlie experiment-based inference.


**Day 2, Session 1.** Sampling distributions and Randomization Inference

FEDAI: Chapter 3.

**Day 2, Session 2: Blocking, Clustering, and Covariate Adjustment**

FEDAI: Chapter 4. In addition, read the following article, which illustrates the use of blocking.


**Day 3, Session 1.** Field Experiments with One-sided Noncompliance (Failure-to-Treat)

FEDAI: Chapter 5. In addition, read the following article, which we will use in class to illustrate the analysis of experiments with one-sided noncompliance.


**Day 3, Session 2.** Implementing a Field Experiment and Reporting the Results

FEDAI: Chapter 13, Appendix A, and Appendix B