

Field Experiments: Start to finish

This version: (First official draft)

Course instructors

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Further instructors will be asked to join the course, and may do so based on availability and interest

Application procedure

Goal and target audience

This course aims to provide doctoral candidates at the School of Management with a practical introduction to conducting field experiments, with a particular focus on field experiments in economics. Rather than focusing on the (econometric) theory of experiments, we will provide students with hands-on advice on how to solve concrete challenges related to planning, conducting, analyzing, and presenting the results of experimental field studies.

Application process

Please send an email to Prof. Philipp Lergetporer (philipp.lergetporer@tum.de) to register for this course.

Course aims

What this course is

In the lectures, students are guided through the various stages of conducting field experiments, which are illustrated using existing studies. In addition, students will develop their own experimental design to answer an open causal research question. The course is taught over 5 days. All students are expected to read the required readings and prepare to discuss as the course will be interactive. All students will have the opportunity to present their experimental designs (voluntary). Attendance is mandatory.

What this course is not

- A fully-fledged course on the theoretical econometric concepts of experiments. We will only consider econometric issues that are directly relevant to taking experimental-design choices.
- An overview course that provides a comprehensive survey of all types of field experiments in economics. We will focus on design issues and discuss them using selected examples.

Course objectives

Knowledge Objectives

We strive to familiarize students with the key building blocks of field experiments. We will provide a walk-through of field experiments from start to finish, and focus on practical questions that arise in experimental studies. We will do so in an applied fashion, using actual examples of recent field experiments.

Skills Objectives

- Build up research design skills
- Enhance verbal skills via class and group discussions
- Improve diagnostic and analytical skills
- Improve skills related to presenting and selling experimental results

Learning Objectives

At the end of the course, students will be able to ...

- ... develop their own experimental designs to answer causal research questions
- ... understand and solve design challenges of field experiments
- ... critically evaluate own and others' experimental studies and identify possible design weaknesses

Preliminary schedule

Each day, the lecture starts at 9 am and ends at 4 pm. There will be a lunch break and coffee breaks.

Day 1 (09.10.2023): Introduction

Topics covered:

- Why field experiments?
- What research questions (not) to address experimentally
- Types of (field) experiments in economics
- What enables and hinders the execution of a successful field experiment?

Day 2 (10.10.2023): Design basics

Topics covered:

- What is a randomized experiment?
- Unit of randomization
- Design variation
- Outcomes
- Statistical model
- Verifying randomization
- Limits to randomization

Day 3 (11.10.2023): Planning and management

Topics covered:

- Types of randomization
- Power calculations
- Attrition
- Anticipating null effects
- IRB and Preregistration

Day 4 (12.10.2023): Interpreting treatment effects

Topics covered:

- Compliance
- Intention to treat
- Treatment on the treated
- Mechanisms
- External validity and scalability
- Cost-benefit analysis
- Alternative interpretations: General equilibrium, Hawthorne effects, experimenter-demand effects

Day 5 (13.10.2023): Practical considerations in field experiments

Topics covered:

- Ethical considerations
- Political considerations
- Timing
- Costs

Core readings

Banerjee, A., E. Duflo (2017). *Handbook of Field Experiments*. Volumes 1-2. North Holland, Amsterdam.
Duflo, E., R. Glennerster, M. Kremer (2007). Using Randomization in Development Economics Research: A Toolkit. In T. P. Schultz and J. A. Strauss (Eds.), *Handbook of Development Economics*, Volume 4, pp. 3895-3962. North Holland, Amsterdam.

Harrison, G. W., J. A. List (2004). Field Experiments. *Journal of Economic Literature*, 42, 1009-1055.

List, J. A. (2011). Why Economists Should Conduct Field Experiments and 14 Tips for Pulling One Off. *Journal of Economic Perspectives*, 25 (3), 3-16.

Further readings for each lecture will be provided at a later point in time.

Course procedures

The course aims at expanding students' toolkit of research methods towards randomized experiments. The goal is to provide a hands-on approach to field experiments that students can directly apply in their scientific work. Even if a student does not plan to conduct experimental studies him/herself, researchers in social sciences should have an understanding of field experimental methods, not least because it has become one of the most popular research designs in economics and related fields. The course will enable students to discuss others' experimental work, and join academic debates on field experiments.

Preparation and active participation

The course is designed as a practical introduction to field experiments. To get most out of the course, students should read the assigned readings for each session before the respective session, and be ready to engage in active discussions.

Assessment

Attendance and participation are mandatory, and regular unexcused absence will lead to exclusion from the course. To receive a certificate, students can miss at maximum one session.

In addition, students are required to design their own experiment to answer an open causal research question. Students need to hand in a written research plan describing their design (4-5 pages, double-spaced). Detailed information on the research plan will be provided in the lecture.