

## Workshops on Field Experiments I and II

Third term 2021–22

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2–6 May 2022, hybrid

FE I course site: <https://mycourses.eui.eu/d21/home/12139>

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6–10 June 2022, hybrid

FE II course site: <https://mycourses.eui.eu/d21/home/12139>

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**Course Description:** The goal of this course is to develop participants' research skills in the area of experimental social sciences. Specifically, it provides the conceptual and analytical tools for the implementation of a field experiment aimed at answering a research question and going through each stages from design and implementation to data analysis. The course combines theoretical and practical sessions covering topics such as randomization, causal inference, and hypothesis testing, among others. At the end of the course, participants will have the basic tools to develop their own research designs and implement a field experiment.

Field Experiments I will cover randomization and hypothesis testing and Field Experiments II will cover data analysis and advanced topics such as attrition and spillover.

**Course Prerequisites:** You will only be able to do the work in this course if you are familiar with statistical methods to analyze quantitative data and have some experience with R or Stata, although course materials will be provided only in R. Students are strongly encouraged to enroll in both Field Experiments I and II. Although students may enroll in FE I without necessarily continuing with FE II, FE I is a prerequisite for FE II.

In order to benefit from this workshop, students need to arrive with a causal research question that could potentially be answered using a field experiment. During the course,

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you will be working with your own question and developing a research design to study it.

**Course Objectives:** At the completion of this course, you will:

1. Have been introduced to the theory and practice of field experiments
2. Have practiced coding randomization, power calculations, and statistical analysis of experimental results
3. Have experience in providing feedback to peers
4. Have improved research practices and skills
5. Be familiar with standards and practices for many aspects of reproducible research
6. Have practiced developing an experimental research design

**Course Format:** This course is hands on and requires active engagement with data, the internet, and various applications during class time. Please make sure your setup is appropriate. You will need a stable and robust internet connection to do the work during class meetings. Class sessions will ask you to work on your laptop and potentially to access the internet while also retaining a stable Zoom connection to the group if you are accessing the course remotely. We expect to allow some students to participate in the course in person at the EUI.

**Readings:** The textbooks used in the course are:

[Gerber, A. S. and Green, D. P. \(2012\). \*Field Experiments: Design, Analysis, and Interpretation\*. WW Norton & Co, New York.](#)

This book is unavailable in electronic format. **You are thus strongly encouraged to purchase your own copy.** Students at the EUI will have access to 20 copies through the library.

[Bowers, J., Voors, M., and Ichino, N. \(2021\). \*The Theory and Practice of Field Experiments: An Introduction from the EGAP Learning Days\*. Evidence in Governance and Politics, Berkeley, CA.](#)

We also recommend some chapters from [Glennerster, R. and Takavarasha, K. \(2013\). \*Running Randomized Evaluations: A Practical Guide\*. Princeton University Press, Princeton](#), which presents material similar to Gerber and Green but less technically. Reading this volume alongside Gerber and Green might bring together intuition and statistics for some students.

**Software(s):** The workshops will provide instruction using R. You should make sure to download R and R Studio in preparation for the course.

**Exercises:** Each session will include some optional practical coding exercises, which students are strongly encouraged to complete.

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**Course Website:** We will use the Brightspace Learning course site, where we will post slides and code after each session. Sessions will also be recorded and the videos posted following the session.

**Course Policies:**

- Students should come to class sessions **already having read** any assigned material.
- Students should come to class sessions **already having practiced** whatever specific skills are assigned. That way, you will be well positioned to bring questions and problems to the attention of the instructors.
- All students are expected to be active class participants and to be prepared to be called upon to answer questions.

**Resources:**

In addition to readings and sites listed on the syllabus, you will find it useful to familiarize yourself with the following sites and resources:

[2019 EASST/BITSS Transparency Training Workshop](#)

[DeclareDesign](#)

[Evidence in Governance and Politics \(EGAP\) Methods Guides](#)

[Evidence in Governance and Politics \(EGAP\) Policy Briefs](#)

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## Pre-workshop preparation

Make sure to have R and RStudio installed on your laptop before the first class meeting.

- R can be freely downloaded from CRAN at the link corresponding to your operating system:
  - For **Windows**: <https://cran.r-project.org/bin/windows/base/>
  - For **Mac OS X**: <https://cran.r-project.org/bin/macosx/>.
    - \* Select R-4.1.2.pkg for OS X 10.13 and higher.
    - \* Select R-3.6.3.nm.pkg for OS X 10.11 and higher.
    - \* Select R-3.3.3.pkg for OS X 10.9-10.11/
    - \* Select R-3.2.1-snowleopard.pkg for OS X 10.6-10.8
- RStudio can be freely downloaded from the R Studio website: <https://www.rstudio.com/products/rstudio/download/>. In the table, click the green “Download” button at the bottom of the left column, “RStudio Desktop Open Source License.” Once you select this button, the page will jump to a list of download options.
  - For **Windows**, select Windows Vista/7/8/10.
  - For **Mac OS X**, select Mac OS X 10.6+ (64-bit).
- To further familiarize yourself with R:
  - Check out the free introduction to R from the CodeSchool, which runs entirely through your browser: <https://www.codeschool.com/courses/try-r>.
  - Check available courses at Coursera. Johns Hopkins University hosts some on R programming (<https://www.coursera.org/learn/r-programming?specialization=jhu-data-science#about>).

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## FE I SYLLABUS

### Session One, May 2: Causal inference and the potential outcomes framework

What is causality, the potential outcomes framework, and how do experiments help causal identification?

- Gerber, A. S. and Green, D. P. (2012). *Field Experiments: Design, Analysis, and Interpretation*. WW Norton & Co, New York, ch. 1 and ch. 2, sections 2.1 and 2.2 only.
- Gerber, A. S., Green, D. P., and Larimer, C. W. (2008). Social pressure and voter turnout: Evidence from a large-scale field experiment. *American Political Science Review*, 102(1):33–48.
- **Recommended:** Glennerster, R. and Takavarasha, K. (2013). *Running Randomized Evaluations: A Practical Guide*. Princeton University Press, Princeton, chs. 1–3.
- **Recommended:** Banerjee, A. and Duflo, E. (2011). *Poor economics: A radical rethinking of the way to fight global poverty*. Public Affairs, New York, ch. 1.
- **Recommended:** Bowers, J., Voors, M., and Ichino, N. (2021). *The Theory and Practice of Field Experiments: An Introduction from the EGAP Learning Days*. Evidence in Governance and Politics, Berkeley, CA, Module 3 materials.

### Session Two, May 3: Random assignment and identification under randomization

Randomization strategies, random sampling versus random assignment, identification under randomization.

- Gerber, A. S. and Green, D. P. (2012). *Field Experiments: Design, Analysis, and Interpretation*. WW Norton & Co, New York, ch. 2, remaining sections
- Karlan, D. and Appel, J. (2016). *Failing in the Field: What We Can Learn When Field Research Goes Wrong*. Princeton University Press, Princeton, ch. 2 (skim).
- **Recommended:** Glennerster, R. and Takavarasha, K. (2013). *Running Randomized Evaluations: A Practical Guide*. Princeton University Press, Princeton, ch. 4.
- **Recommended:** Wantchekon, L. (2003). Clientelism and voting behavior: Evidence from a field experiment in Benin. *World Politics*, 55(3):399–422.
- **Recommended:** Collier, P. and Vicente, P. C. (2014). Votes and violence: Evidence from a field experiment in Nigeria. *The Economic Journal*, 124(574):F327–F355.
- **Recommended:** Bowers, J., Voors, M., and Ichino, N. (2021). *The Theory and Practice of Field Experiments: An Introduction from the EGAP Learning Days*. Evidence in Governance and Politics, Berkeley, CA, Module 4 materials.

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**Session Three, May 4:** Causal inference

Sampling distributions, causal inference, hypothesis testing.

- Gerber, A. S. and Green, D. P. (2012). *Field Experiments: Design, Analysis, and Interpretation*. WW Norton & Co, New York, ch. 3.
- **Recommended:** Bowers, J., Voors, M., and Ichino, N. (2021). *The Theory and Practice of Field Experiments: An Introduction from the EGAP Learning Days*. Evidence in Governance and Politics, Berkeley, CA, Module 5 & 6 materials.

Statistical power.

- Gerber, A. S. and Green, D. P. (2012). *Field Experiments: Design, Analysis, and Interpretation*. WW Norton & Co, New York, ch. 3.
- Karlan, D. and Appel, J. (2016). *Failing in the Field: What We Can Learn When Field Research Goes Wrong*. Princeton University Press, Princeton, ch. 5.
- **Recommended:** Glennerster, R. and Takavarasha, K. (2013). *Running Randomized Evaluations: A Practical Guide*. Princeton University Press, Princeton, ch. 6.
- **Recommended:** Bowers, J., Voors, M., and Ichino, N. (2021). *The Theory and Practice of Field Experiments: An Introduction from the EGAP Learning Days*. Evidence in Governance and Politics, Berkeley, CA, Module 7 materials.

**Session Four:** Student presentations and feedback

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## FE II SYLLABUS

Please read the assigned readings **before** coming to class.

### Session One, June 6: Review

Causal inference, estimands, randomization, estimation, hypothesis testing, and statistical power.

- Gerber, A. S. and Green, D. P. (2012). *Field Experiments: Design, Analysis, and Interpretation*. WW Norton & Co, New York, Chapters 1-3 (review)
- Petersen, M. B., Aarøe, L., Jensen, N. H., and Curry, O. (2014). Social Welfare and the Psychology of Food Sharing: Short-Term Hunger Increases Support for Social Welfare. *Political Psychology*, 35(6):757–773
- Aarøe, L. and Petersen, M. B. (2013). Hunger Games: Fluctuations in Blood Glucose Levels Influence Support for Social Welfare. *Psychological Science*, 24(12):2550–2556
- **Recommended:** Bowers, J., Voors, M., and Ichino, N. (2021). *The Theory and Practice of Field Experiments: An Introduction from the EGAP Learning Days*. Evidence in Governance and Politics, Berkeley, CA, review Module 1–7 materials.
- **Recommended:** Bertrand, M. and Mullainathan, S. (2004). Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination. *American Economic Review*, 94(4):991–1013

### Session Two, June 7: Clustered and blocked designs

- Gerber, A. S. and Green, D. P. (2012). *Field Experiments: Design, Analysis, and Interpretation*. WW Norton & Co, New York, ch.8, Sections 8.1–8.3 only
- Ichino, N. and Schündeln, M. (2012). Detering or displacing electoral irregularities? spillover effects of observers in a randomized field experiment in Ghana. *Journal of Politics*, 74(1):292–307
- Christensen, D., Dube, O., Haushofer, J., Siddiqi, B., and Voors, M. (2021). Building Resilient Health Systems: Experimental Evidence from Sierra Leone and The 2014 Ebola Outbreak. *The Quarterly Journal of Economics*, 136(2):1145–1198

### Session Three, June 8: Causal effects of non-random compliance with randomized interventions

Instrumental variables and the placebo controlled design

- Gerber, A. S. and Green, D. P. (2012). *Field Experiments: Design, Analysis, and Interpretation*. WW Norton & Co, New York, ch. 5

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- Friedman, W., Kremer, M., Miguel, E., and Thornton, R. (2016). Education as Liberation? *Economica*, 83(329):1–30 (Instrumental variables)
  - Kalla, J. L. and Broockman, D. E. (2020). Reducing Exclusionary Attitudes through Interpersonal Conversation: Evidence from Three Field Experiments. *American Political Science Review*, 114(2):410–425 (A placebo, control, treatment)

**Session Four, June 9:** Survey experiments

- Diaz, G., Grady, C., and Kuklinski, J. H. (2020). Survey experiments and the quest for valid interpretation. In *The SAGE Handbook of Research Methods in Political Science and International Relations*. SAGE Publications
- Grady, C. (2019). 10 things to know about survey experiments. *EGAP Methods Guides*
- Teele, D. L., Kalla, J., and Rosenbluth, F. (2018). The Ties That Double Bind: Social Roles and Women’s Underrepresentation in Politics. *American Political Science Review*, 112(3):525–541
- **Recommended:** Gaines, B. J., Kuklinski, J. H., and Quirk, P. J. (2007). The logic of the survey experiment reexamined. *Political Analysis*, 15(1):1–20

**Session Five, June 10:** Student presentations and feedback