

JPAL 102x: Designing and Running Randomized Evaluations

Instructors:

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Course Descriptions:

A randomized evaluation, also known as a randomized controlled trial (RCT), field experiment or field trial, is a type of impact evaluation that uses random assignment to allocate resources, run programs, or apply policies as part of the study design. This course will provide step-by-step training on how to design and conduct an RCT for social programs. You will learn about why and when to conduct RCTs and the key components of a well-designed RCT. In addition, this course will provide insights on how to implement your RCT in the field, including questionnaire design, piloting, quality control, data collection and management. The course will also go over common practices to ensure research transparency.

If you are interested in getting an overview of the content and exercises covered in this course, or eager to find additional resources, please check out our [course preview](#). A score of 60% or above in the course previews indicates that you are ready to take the course, while a score below 60% indicates that you should further review the concepts covered before beginning the course. The answers to the Course Preview are [here](#).

This Course and the MicroMasters® Program:

This is a core course in the MITx MicroMasters Program in Data, Economics, and Design of Policy (DEDP). The program consists of two tracks and eight online courses and proctored exams. Learners who pass the three core classes and two elective courses can earn their MicroMasters credential. The program is co-designed by and run by MIT's Department of Economics and the Abdul Latif Jameel Poverty Action Lab (J-PAL), a global leader in conducting randomized evaluations to test and improve the effectiveness of programs aimed at reducing poverty. The MicroMasters program is intended for learners who are interested in building a full set of tools and skills required for data analysis in the social sciences, understanding the problems facing the world's poor, and learning how to design and evaluate social policies that strive to solve them. You can learn more about this program by visiting our [website](#) – we hope that many of you will decide to join us!

Prerequisites:

No previous economics or statistics background is required. However, economic and statistics concepts and vocabulary will be used and some familiarity is advised. Some exercises will require use of the statistical software either R or Stata. Resources for downloading, installing, learning and using R are available in the course.

Assignments and Grading Scheme:

For most weeks during the course, there will be a homework assignment that covers the main topics in that unit. Homework assignments will be released on Tuesdays along with the videos, and will be due the following Tuesday. In addition, there will be a final exam. Please see the online calendar for further information. There is also a pdf schedule that you can download and keep for offline use.

Grades of the course are calculated as follows:

- Lecture Sequence and Finger Exercises: **6%**
- Problem Sets: **9%**
- Mid-term Exam: **6%**

- Comprehensive Review: **9%**
- Proctored Exam: **70%**

You must pass with a score of at least 50% to earn the certificate for this course.

Lectures and Time Commitment:

The material for each topic will be posted weekly, and you should keep pace with the rest of the class. There will be about two lectures per week. You will have access to videos of the lecture presented in short segments (8-10 minutes on average), followed by finger exercises. You will also have access to the lecture notes and presentation slides.

The minimum commitment will be approximately 12-14 hours per week for watching the lectures, doing the readings, and completing the assignments.

Honor Code Pledge:

By enrolling in a MITx Online course or program, you agree that you will:

- Complete all tests and assignments on my own, unless collaboration on an assignment is explicitly permitted.
- Maintain only one user account and not let anyone else use my username and/or password.
- Not engage in any activity that would dishonestly improve my results, or improve or hurt the results of others.
- Not post online or share answers to problems that are being used to assess learner performance.

We will strictly enforce the honor code pledge. If you are found in violation of the Terms of Service or Honor Code, you may be subject to one or more of the following actions:

- Receiving a zero or no credit for an assignment;
- Having any certificate earned in the course or program withheld or revoked;

- Being unenrolled from a course or program; or
- Termination of your use of the MITx Online Site.
- Additional actions may be taken at the sole discretion of MIT.

No refunds will be issued in the case of any corrective action for such violations.

Honor Code violations will be determined at the sole discretion of MIT. You will be notified if a determination has been made that you have violated this Honor Code and you will be informed of the corresponding action to be taken as a result of the violation.

MITx Commitment to Accessibility:

If you have a disability-related request regarding accessing an MITx course, including exams, please contact micromasters-support@mit.edu as early in the course as possible or at least 2 weeks prior to an exam start date to allow time to respond in advance of course deadlines. Requests are reviewed via an interactive process to meet accessibility requirements for learners with disabilities and uphold the academic integrity for MITx.

Course Syllabus and Readings:

Week One: Randomized Evaluation Design I

- What is evaluation?
- Why randomize?
 - Optional Reading: *Impact Evaluation in Practice*, Chapters 3-8
- How to randomize?
 - Reading: *Running Randomized Evaluations*, Chapter 4

Week Two: Randomized Evaluation Design II

- Threats and Analysis
 - Reading: *Impact Evaluations in Practice*, Chapter 9
- Generalizability
- Cost-Effectiveness and Cost-Benefit Analysis
 - Reading: Dhaliwal et al. (2012)

Week Three: Sampling and Sample Size

- Sampling and Randomization
 - Optional Reading: *The Power of Survey Design*, Chapter 4
- Sample Size and Power
 - Reading: *Running Randomized Evaluations*, Chapter 6
- Practical Tips: Sampling and Sample Size
 - Readings: Banerji et al. (2017); Bruhn and McKenzie (2008); Crepon et al. (2014)
 - Optional Reading: Imbens (2011)

Week Four: Measurement I (Intro, Sensitive Topics, Market Activity)

- Introduction to Measurement
 - Reading: *Running Randomized Evaluations*, Chapter 5 (5.1-5.3), pp. 180-211; Zwane et al. (2011)
- Measuring Sensitive Questions
 - Reading: *Running Randomized Evaluations*, Chapter 5 (5.4), pp. 212-240
- Measuring Market Activity
 - Readings: McKenzie and Woodruff (2016); Woodruff et al. (2007)

Week Five: Measurement II (Welfare, Health, Networks)

- Measuring Welfare and Consumption
 - *Designing Household Survey Questionnaires for Developing Countries*, Volume I, Chapter 5; Deaton and Zaidi (2002)
- Measuring Health Outcomes
 - Optional Reading: National Academy of Sciences (2000)
- Measuring Networks

Week Six: Measurement III (Behavior, Education, Gender and Empowerment)

- Measuring Behavior and Preferences
 - Reading: Gneezy and Imas (2016)
- Measuring Learning
 - Readings: Muralidharan (2016); Glewwe and Muralidharan (2015)
 - Optional Readings: UNESCO (2016), pp 202-211; Das and Zajonc (2008)
- Measuring Gender and Empowerment
 - Readings: Bertrand and Duflo (2016), pp. 1-40; Kabeer (1999)

Week Seven: Data Collection & Management (Questionnaire Design)

- Introduction to Data Collection
 - Reading: *The Power of Survey Design*, Chapters 1 & 2
- Questionnaire Design and Piloting
 - Reading: *The Power of Survey Design*, Chapters 3 & 5
- Modes of Data Collection
- Mid-Term Exam

Week Eight: Data Collection & Management (Logistics and Monitoring)

- Human Resources: Building the Survey Team
- Collecting High Quality Data: Complete Data
- Collecting High Quality Data: Accurate Data

Week Nine: Data Collection & Management (Management Data)

- Data Entry
- Data Management
 - Reading: Best Practices in Coding and Management (IPA), pp. 1-13; Gentzkow and Shapiro (2014)
- Working with Administrative Data
 - Reading: Using Administrative Data for Randomized Evaluations (J-PAL North America), pp.1-45

Week Ten: Research Integrity, Transparency, and Reproducibility I

- Data Security
- Research Transparency
 - Readings: Olken (2015); Miguel et al. (2014)

- Ethics and IRB

– Readings: Glennerster (2016), Section C: Ethics, pp. 22-36; Alderman et al. (2013)

Week Eleven: Research Integrity, Transparency, and Reproducibility II

- Project Management
- Evaluation Start to Finish

***Week Eleven: Comprehensive Review**