Randomized Control Trial and Policy Evaluation

Course title - Intitulé du cours	Randomized Control Trial and Policy Evaluation
Level / Semester - Niveau /semestre	M2 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	Bobba Matteo
Other teacher(s) - Autre(s) enseignant(s)	
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Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	15
TP Hours - Volume horaire TP	
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Juan Martin Pal

Teaching staff contacts - Coordonnées de l'équipe pédagogique :

Prof: matteo.bobba@tse-fr.eu. Office number: T.352. Office hours: TBA. Preferred means of interaction: By email or with prior appointment

TA: juanmartinpal@tse-fr.eu. Office hours: TBA.

Course's Objectives - Objectifs du cours :

This course features a broad overview of randomized experiments as a key tool in empirical research. The first part of the course discusses the rationale behind the experimental approach through the lens of prominent empirical methods. The second part covers econometric aspects as well as a variety of implementation issues that arise when running RCTs in practice. The third part is aimed at illustrating the diverse use of randomized experiments in the most recent research practice through the exposition and discussion of leading academic articles. The learning objective of the course is twofold. First, students should be able to critically assess existing empirical research that employs the experimental approach. Second, students should be able to originally think about an experimental design of a research question of their choice.

Prerequisites - Pré requis :

The course is meant to be self-containing. However, basic knowledge of causal inference at the level of, say, the M1 Program Evaluation course or the M2 PPD Causal Inference course offered at TSE will be assumed during the exposition. While the TA sessions and the takehome exercises (see below) will deepen your empirical skills through practical exercises, previous knowledge of standard statistical packages such as Stata or R is highly reccomended. Two (somehow complementary) introductory

econometrics textbooks that you may want to consult to either refresh or enhance your knowledge and empirical skills are: • "Introductory Econometrics. A Modern Approach", Wooldridge, Jeffrey M. Cencage Learning. • "Causal Inference: The Mixtape", Scott Cunningham. Princeton University Press.

Practical information about the sessions - Modalités pratiques de gestion du cours :

Laptops and tablets are allowed provided they are used for the course. Student participation is required and will be graded.

Grading system - Modalités d'évaluation :

1. Final written exam [50%].

2. Detailed pre-analysis plan of a mock RCT [25%]. A pre-analysis plan outlines the hypotheses to be tested and specications to be used in the analysis of a randomized experiment before collecting the data generated by the random treatment assignment. In your case, you should use an existing dataset of your choice (survey or administrative data) as the baseline of your hypothetical experiment. You should write it in the form of a draft of a paper of maximum 20 pages (including bibliography, tables, etc).

3. Takehomes [25%]: students will be required to do some empirical work with datasets that will be provided in class and hand in the associated output/log files.

Bibliography/references - Bibliographie/références :

Textbook for the course: IMBENS, GUIDO, RUBIN, DONALD, Causal Inference for Statistics, Social, and Biomedical Sciences: An Introduction. New York: Cambridge University Press.

Additional references (academic papers and some chapters of other textbooks) will be given in class.

Session planning - Planification des séances :

1. Why randomize? (week 1 to week 2) • The Experimental Approach to Empirical (Micro)Economics • The causal inference approach • The structural econometrics approach

2. Designing and implementing RCTs (week 3 to week 7) • Econometrics of RCTs • Practical design and implementation issues • Sample size and the power of experiments • Additional topics (externalities, attrition, etc..)

3. RCTs applications (week 8 to week 10) • RCTs for policy evaluation • RCTs and Structural models

Distance learning – *Enseignement à distance :*

In case of necessity the class will move online using the zoom platform. All the associated pedagogical resources will be made available so that high-quality teaching and high-level interactions will be maintaned.