UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Quantitative Research Methods 1

2627-111R002

Title

Quantitative Research Methods 1+Lab

Teacher(s)

Carlo Bottai
Gianna Serafina Monti
Caterina Liberati
Simona Lorena Comi

Language

English

Short description

At the outset of the course, students will receive a concise introduction to the programming language R, equipping them with fundamental commands.
Subsequently, the curriculum delves into the intricacies of quantitative research methods, encompassing key aspects of probability theory and inferential statistics. This includes a comprehensive exploration of estimation, hypothesis testing, and confidence intervals.

Moving forward, the course navigates through Unsupervised Classification, focusing on clustering techniques, and Dimension Reduction methods. Participants will then engage with Linear Regression and Variable Selection, gaining a thorough understanding of these analytical approaches.

In the latter segment of the course, emphasis is placed on advanced topics such as Panel Data Models,covering both pooled and fixed effects models, and Discrete Choice Models, including the linear probability model, logit, and probit. The course culminates with Impact Evaluation fundamentals, offering a glimpse into the primary approaches for counterfactual evaluation. This encompasses Randomized Controlled
Trials, Difference-in-Differences, Instrumental Variables, and Regression Discontinuity Design.

CFU / Hours

40h

Teaching period

November-January

Sustainable Development Goals

QUALITY EDUCATION