UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

# Econometrics

**2324-1-F7702M029**

## Learning objectives

The course aims to provide the student with a range of econometric methods to assist him in the empirical verification of economic issues and in the treatment of quantitative data with the use of the programming language in R. For this reason, the course has both theoretical and applied content. All the topics covered will be the subject of computer exercises.

## Contents

The course is dedicated to introducing the main econometric analysis techniques used in economic applications. Basic econometric tools will be provided relating to the specification and estimation of the regression function, as well as the testing of hypotheses. The study of the theoretical tools is then followed by their use for the verification of basic models of the economy.

## Detailed program

Classical Multiple Linear Regression Model

Gauss-Markov theorem

OLS (Ordinary Least Squared)

Goodness of fit

Properties of estimators

Inference and Forecast

GLS (Generalized Least Squared)

Dummy variables

Panel data

Panel data: Fixed effects

Panel data: Random Effects

## Prerequisites

## Teaching methods

Standard classes and hands-on sessions using R.

## Assessment methods

Final exam in English made and short research paper with presentation

## Textbooks and Reading Materials

Stock, J. H., & Watson, M. W. (2020). Introduction to econometrics 4th ed.

Verbeeck M. (2012) A Guide to Modern Econometrics, 4th edition, John Wiley.

Greene, W. (2008). Econometric Analysis, 7th ed. Prentice Hall. New York, 7.

## Semester

## Teaching language

English

## Sustainable Development Goals

QUALITY EDUCATION | DECENT WORK AND ECONOMIC GROWTH | CLIMATE ACTION