

# UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

## **COURSE SYLLABUS**

## Statistics I

2324-1-E4101B005

## Learning objectives

The course is about **descriptive statistics**, both univariate and bivariate, for the analysis of data of various nature.

## **Contents**

The course is about **descriptive statistics** and it is organized in two macro sections. The first part concerns **univariate statistics**, covering the notions of frequency distributions, measures of central tendency, variability and shape. The second part concerns **bivariate statistics**, with special emphasis on measures for quantifying the relation between two variables.

### **Detailed program**

The course is devoted to descriptive statistics and it is divided in two macro sections.

#### Section I: univariate statistics

- · Preliminary concepts
- Frequency distributions
- · Measures of central tendency
- · Measures of variability
- · Main graphical representations
- · Symmetry, kurtosis and multimodality
- Categorical data and heterogeneity indexes

#### Section II: bivariate statistics

- Covariance and correlation
- Simple linear regression
- Partial correlation
- · Analysis of variance
- Contingency tables
- Dependence among variables
- Time series

### **Prerequisites**

There are no prerequisites. However, it is strongly recommended the knowledge of basic notions of mathematics.

## **Teaching methods**

#### **Assessment methods**

The exam is based on a written test.

### **Textbooks and Reading Materials**

#### Textbook (in Italian)

• Piccolo, D. (2010), Statistica, Terza edizione, Il Mulino.

#### Reading material (in Italian)

- Cicchitelli, G. (2012), Statistica principi e metodi, Seconda edizione, Pearson.
- Piccolo, D. (2020). Statistica per le decisioni, Terza edizione, Il Mulino.

Moreover, additional teaching material (in Italian) will be available on the e-learning website.

#### Semester

The course is scheduled in the first semester.

### **Teaching language**

Italian

## **Sustainable Development Goals**

**QUALITY EDUCATION**