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