



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Statistical Methods in Marketing

2122-1-F7702M038-F7702M103M

Learning objectives

The aim of the course is to introduce statistical techniques to perform a well-conducted analysis of real data from a population census or sample surveys.

Contents

The contents of the course can be schematically arranged in five parts:

- 1) Descriptive Statistics
- 2) Probability
- 3) Inference
- 4) Linear regression model
- 5) Cluster Analysis

Detailed program

1) Descriptive Statistics:

- Univariate distributions
- Location and variability
- Bivariate distributions
- Association

2) Probability:

- Definition and properties
- Random variables (discrete vs. continuous)
- Expectation, Variance, and Covariance

3) Inference:

- Estimators
- Comparison (Mean Squared Errors and efficiency)
- Confidence Intervals
- Hypotheses testing

4) Linear regression model:

- Simple linear model
- Multiple linear model
- Inference

5) Cluster Analysis

- k-means
- Hierarchical methods

Prerequisites

Elements of mathematical analysis.

Teaching methods

Class lectures and exercises through Excel.

Assessment methods

Written exam.

Textbooks and Reading Materials

- **Statistica per le decisioni.** Domenico Piccolo. Il Mulino.
- **Statistica per le analisi di Mercato - Metodi e strumenti.** Francesca Bassi e Salvatore Ingrassia, Pearson.

Semester

Second semester.

Teaching language

Italian.
