UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Complementary Statistics - 1 - 2

2526-3-E1801M046-E1801M066M-T1

Learning objectives

The aim of the course is to introduce basic problems in statistical inference and to provide the main concepts and tools of statistical inference. The interplay among the contets of the course will be exemplied through examples.

By the end of the course, students will be able to:

- Understand the fundamental concepts of probability and inferential statistics.
- Apply basic statistical methods to real data.
- Critically evaluate results and choose the most appropriate statistical method.
- Communicate the results of statistical analysis clearly and effectively.
- Acquire the foundation to pursue more advanced statistical studies independently.

Contents

The main concepts and basic tools of statistical inference.

Detailed program

- Main concepts of probability theory
- Random variables
- Some probabilistic models: Bernoulli and binomial distributions, Poisson distribution, normal distributions, chi-squared, t-Student's distributions and their approximations
- Sampling distributions: an overview
- Point estimate, confidence interval, and hypothesys testing: theory and examples.

Prerequisites

Main concepts of univariate and bivariate descriptive statistics.

Teaching methods

Face-to-face lectures in the delivery mode.

Assessment methods

Thw will be just the final exam.
The exam is written and includes multiple choice questions and numeric exercises (using a non-programmable calculator and statistical tables). The aim of the exam is to evaluate the knowledge of tne concepts and their application.

Textbooks and Reading Materials

Cicchitelli, D'urso, Minozzo. Statistica: principi e metodi, Ed. Pearson.

Semester

First semester

Teaching language

Italian

Sustainable Development Goals

QUALITY EDUCATION