



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Computational Statistics

2324-3-E4101B041

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#### Learning objectives

The aim of the course is to illustrate some computational statistical tools which are fundamental for data analysis and modeling.

#### Contents

Mixture-based clustering , classification and regression methods.

#### Detailed program

Mixture models. Model-based clustering. Model-based classification. Mixture of experts models. Data visualization and manipulation (tidyverse).

#### Prerequisites

Knowledge of the notions given in the courses "Multivariate Statistics" and "Statistics III" is recommended.

#### Teaching methods

Class lectures and lab sessions.

## **Assessment methods**

The exam consists of an intermediate homework, a final project work and a written exam.

## **Textbooks and Reading Materials**

- Fruhwirth-Schnatter (2006) Finite mixture and Markov switching models
- McLahan-Peel (2000) Finite\_Mixture\_Models
- Kabacoff (2018) Data Visualization with R

Further material will be circulated via the e-learning page of the course.

## **Semester**

The course is scheduled in the second part (six weeks) of the first semester.

## **Teaching language**

Italian

## **Sustainable Development Goals**

QUALITY EDUCATION

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