

# UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

# SYLLABUS DEL CORSO

# Introduction to statistics with R (part I): data description and basic inference

2223-DOTT-MOD10-1

## **Titolo**

Introduction to statistics with R (part I): data description and basic in-ference

# Docente(i)

Dr. Davide Paolo Bernasconi

### Lingua

**English** 

#### **Breve descrizione**

#### **Objectives**

The course, through lectures and computer lab sessions, aims to provide basics notions of statistics to plan and analyze the results of a scientific study or experi-ment.

At the end of the course the participants should be able to choose the most suit-able design for their study, compute the optimal sample size, perform a graphical and tabular description of the data collected and analyze the association between variables through proper measures and hypothesis testing.

# Course program

Day 1:

- Planning a study: types of designs
- Data summaries: descriptive measures and graphical representa-tions.
- Lab session with R

Day 2:

- Introduction to hypothesis testing
- Parametric tests for quantitative variables
- Lab session with R

Day 3:

- Non-parametric tests for quantitative variables
- Tests for categorical variables
- Lab session with R

Day 4:

- Correction for multiple comparisons
- · Sensitivity, specificity and Lab session with R

#### **Target audicence**

Doctoral students of any discipline who are interested in the practical application of basic statistical methods for data analysis in scientific research

#### **Participants**

Min 20 Max 40

#### CFU / Ore

2 CFU / 16 hrs

# Periodo di erogazione

11/01/2023 9 am - 1 pm lab907 (Edificio U9 KOINE') 13/01/2023 2 pm - 6pm lab905 (Edificio U9 KOINE') 18/01/2023 9 am - 1 pm lab716 (Edificio U7 CIVITAS) 20/01/2023 2 pm - 6 pm lab907 (Edificio U9 KOINE')

course registration on "Segreterie online": from 20/12/2022 to 04/01/2023

# **Sustainable Development Goals**

ISTRUZIONE DI QUALITÁ