UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

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

2223-DOTT-MOD10-1

Title

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

Teacher(s)

Dr. Davide Paolo Bernasconi

Language

English

Short description

Objectives
The course, through lectures and computer lab sessions, aims to illustrate the fun-daments of statistical modeling with multiple covariates focusing on the linear and **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 / Hours

2 CFU / 16 hrs

Teaching period

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

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

Sustainable Development Goals

QUALITY EDUCATION