UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

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

2122-DOTT-MOD11

Titolo

Introduction to statistics with R (part I): data description and basic infer-ence

Docente(i)

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Lingua

English

Breve descrizione

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 experiment.

At the end of the course the participants should be able to choose the most suitable 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 the ROC curve
- Lab session

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

Participants (min/max): 20/40

CFU / Ore

CFU: 2 CFU

Ore: 16 (8 in class + 8 in computer lab)

Periodo di erogazione

12/01/2022 9 am -1 pm LAB 4A1

14/01/2022 9 am -1 pm LAB 4A1

17/01/2022 1 pm-5 pm LAB 719

19/01/2022 9 am-1 pm LAB 4A1