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)

Davide Paolo Bernasconi

Bicocca Bioinformatics Biostatistics and Bioimaging Centre - B4, School of Medicine and Surgery, University of Milano Bicocca

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