

## SYLLABUS DEL CORSO

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

**2526-102R-11**

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#### **Title**

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

#### **Teacher**

Davide Paolo Bernasconi

#### **Language**

English

#### **Short description**

##### **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 experiment.

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:

Introduction to R language

Data summaries: descriptive measures and graphical representations.

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

Lab session with R

**Target audience**

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

**Maximum number of participants**

50

**Assessment method**

Test with multiple choice questions

**CFU / Hours**

2 CFU / 16 hrs

**Teaching period and mode**

13/01/2026 9 am -1 pm U6-42

15/01/2026 9 am -1 pm U6-42

20/01/2026 9 am -1 pm U6-42

22/01/2026 9 am -1 pm U6-42

**course registration on “Segreterie online”:** from 19/12/2025 to 11/01/2026

The course will be taught in presence with the possibility of remote participation through streaming lessons and recordings.

## **Sustainable Development Goals**

QUALITY EDUCATION

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