# Course

# **Essential Statistics across Disciplines**

Prof. Alfonso Iodice d'Enza

The course is compulsory for PhD students of the XL cycle and optional for all other PhD students.

#### **Course outline**

Lesson 1: Introduction and descriptive univariate statistics.

Lesson 2: Elements of probability and inference.

Lesson 3: More on inference and descriptive bivariate statistics: measuring interdependency.

**Lesson 4:** Measuring dependency: simple linear regression. The qualitative predictor case (aka ANOVA). The general model formula in the multivariate case.

Lesson 5: Multiple linear regression. Qualitative response variable: the classification problem.

Lesson 6: The supervised learning flow. Elements of unsupervised learning.

### **Course schedule**

The lessons will take place on Mondays, on the following dates in April and May 2025:

April 7

April 14

April 28

May 5

May 12

May 19

### **Course Timetable**

11 a.m.- 1 p.m. | Room 0.04, Campus Folcara (theory)

2 p.m. – 3 p.m. | Room 0.05, Campus Folcara (practice)

Students are required to bring their own laptop for the practice sessions.