

# UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

# SYLLABUS DEL CORSO

## Statistica Economica

2223-2-E1401A014

### Learning objectives

The course is an introduction to statistics, aiming at building the theoretical competences needed in reading a descriptive analysis and the practical competences needed in performing one, on one side, and at introducing the basics of probability and inference, on the other.

### Contents

- 1. Descriptive statistics
- 2. GNU-R computational environment
- 3. Probability calculus
- 4. Statistical inference

### **Detailed program**

- 1. Introduction
- 2. Descriptive statistics
- 3. Frequency distributions
- 4. Position indexes
- 5. Variability indexes
- 6. Concentration indexes
- 7. Multivariate distributions
- 8. Correlation

- 9. GNU-R computational environment
- 10. GNU-R
- 11. GNU-R: Data
- 12. GNU-R: Distributions
- 13. Probability calculus
- 14. Probability axioms
- 15. Bayes theorem
- 16. Random variables
- 17. Probabilistic models
- 18. Asintotic theorems
- 19. Inference
- 20. Random samples
- 21. Hypothess testing
- 22. Confidence intervals
- 23. Linear model

### Prerequisites

Basic mathematics.

#### **Teaching methods**

Classes and practical exercises.

#### Assessment methods

Written exam.

### **Textbooks and Reading Materials**

Piccolo D., Statistica per le decisioni, terza edizione, II Mulino, 2020, ISBN 978-88-15-27220-1

### **Sustainable Development Goals**