

# Introductory Statistics

Collegio Carlo Alberto

Lorien Sabatino

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## Contact Information

Email: [lorien.sabatino@carloalberto.org](mailto:lorien.sabatino@carloalberto.org)

Website: <https://sites.google.com/carloalberto.org/lorien-sabatino>

## Course Description

The course provides a formal introduction to some basic concepts of probability and statistics which are useful in economics and social sciences.

## Exam

There will be a written exam at the end of the course.

## Program

### Part 1

- Introduction to set theory
- Introduction to probability
- Random variables
- Expectation and moment
- Some families of univariate discrete distributions
- Some families of univariate continuous distributions

- Multivariate random variables
- Conditional Probability and Independence

## **Part 2**

- Sampling
- Sample moments
- Weak law of large numbers
- Central limit theorem
- Point Estimation
- Consistency of estimators
- Hypothesis testing and confidence interval

## **Textbooks**

Introduction to the Theory of Statistics - Mood, Graybill, and Boes

Introductory Statistics - Wonnacott and Wonnacott