

# ADVANCED STATISTICS

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The aim of this course is to introduce the basic tools of mathematical statistics in view of inference, prediction and decision taking.

Contents of the course:

- Statistical Models
- Comparison of estimators (consistency, risks, asymptotic efficiency)
- Construction of confidence sets.
- Hypothesis Testing.
- Estimation and tests in non-parametric models
- Methods of estimation in parametric models (methods based on moments, quantiles, likelihood, Bayes)

Prerequisites: Probability Theory.  
First trimester.