

Master 2

Statistics & Econometrics



The Master in Statistics and Econometrics is made up of two one-year programs: M1 in economics and/or statistics (396 course hours) and M2 (338 course hours).

The objective of this program is to provide students with a solid background knowledge of applied statistical techniques. Students apply and build upon these foundations by learning how to use software such as SAS and R.

Computing and database management skills are also acquired. Elective courses enable students to apply their knowledge to diverse fields, especially in the service sector. Lectures are given in English by leading researchers, TSE and IMT (Institut de Mathématiques de Toulouse) faculty, as well as outside speakers from the professional world.

Anne-Ruiz GAZEN – *Master's Program Director (TSE)*

Xavier GENDRE – *Master's Program Director (University Paul Sabatier)*

Skills:

- Skills in Statistics - Comprehension of theoretical foundations and hypotheses as well as ability to implement techniques in the following fields: exploratory and inferential methods for the linear model, time series, data analysis techniques (data mining), basics of sampling theory, non-parametric methods
- Business skills - financial products, insurance, marketing, geomarketing survey, biostatistics
- Computer science skills, managing and querying large databases.
- Teamwork: handling responsibilities, organizing and sharing workloads, communication
- Consulting ability: being able to listen to a non-statistician explain a problem and translate it in statistical terms (formalizing and modeling a problem), being able to explain statistical results to a non-specialist.

Careers opportunities:

- Typical careers: Data miner, data scientist, Business analyst, actuarial Studies consultant, statistical consultant, research engineer, biostatistician, ...
- Key sectors: Banking and insurance, marketing departments, pharmaceutical industry, other industries,
- Service companies, consulting firms, research laboratories, public sector: government statistical services.

Curriculum:

- Data Mining
- Big Data
- Surveys sampling
- Time series
- Scoring
- Statistical Software : SAS, R, Python and Excel
- Statistical Consulting

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Adrian Alejandro Lara Ramirez

2012 graduate - Research Manager in statistics and data mining at Biwhere.

Thanks to the program's practical and applied teaching methods and rigorously scientific academics, I have become a valuable asset to employers. In addition to learning the SAS software and becoming fluent in the innovative, flexible, and inexpensive (open source) R language, I have been given what it takes to make my résumé stand out in the geomarketing field.



Marie Pierre Rozet

Datamining Director - BNP PARIBAS Cardif

My job consists of coupling knowledge of data mining tools and statistical models with an understanding of business issues. This dual skill set allows me to seek out the right data and incorporate it into a marketing plan.

The 2nd year program in statistics and econometrics provides you with a dual skill set focused on statistics as well as a first look at areas of application. The broad range of problem sets tackled allows students to adapt to rapidly developing sectors, for example the recent advent of Big Data.



Anne-Ruiz Gazen

Professor of Statistics and Director of the Statistics & Econometrics Master program – TSE

As a survey sampling instructor and researcher, I have had the opportunity to share my passion for this field with students in the Master in Statistics and Economics at TSE. The hard-working, motivated students of TSE have the capacity to apprehend both the theoretical underpinnings of statistics and its practical applications.