

Program 2024/2025



AIMS AND SCOPE

The master aims at providing econometric and empirical analysis tools combined with strong skills in using large data sets to perform deep studies in a broad area of economics.

The EEE M2 program provides in the first semester a solid training in microeconometrics, time series, panel data models, non-parametric methods, large dimension statistical tools, computer programming, and database management system. In the second semester, students apply these training to do empirical studies in industrial organization, finance, public policy evaluation programs, health and insurance, data analytics and big data.

Courses are taught in English by TSE faculty members with well-established international reputation in econometrics, empirical economics, industrial organization, and finance among others. This training is completed with an empirical project done during the whole year in a group of students.

Note: students can apply to either to the full program (i.e. two years) or directly to the 2nd year (refer to the Admission section for further information)

STRENGTHS OF THE PROGRAM

- TSE boasts an internationally renowned research group in econometrics and empirical economics.
- Almost all classes in the program are oriented towards empirical analysis.
- Students develop empirical skills to perform economic analysis in many fields.
- Computer programming and database management system are key elements of the training.
- The empirical project done during the year in group allows the student to implement all the acquired tools.
- The program benefits from TSE affiliated research centers' strong ties with a network of large French and foreign firms (EDF, Orange, La Poste, Microsoft,...), banks (Société Générale, BNP Paribas,...) and insurance companies (AXA, SCOR,...) that provides students with a valuable window of job opportunities.

COURSES

1st Year - Master in Economics International Track

| SEMESTER 1 | SEMESTER 2 |
|--|---|
| <p>Compulsory:</p> <ul style="list-style-type: none"> • Macroeconomics * • Game Theory * • Theory of Incentives * • Applied Econometrics * • Intermediate Econometrics * • R Programming * • Professional Development • French as a Foreign Language <p>2 electives:</p> <ul style="list-style-type: none"> • Environmental Economics • Economic History • Markov Chains and Applications • Probability Modeling • Evolution of Economic Behaviour • Understanding Real World Organizations μ • Experimental Economics • Political Economy • Project Management • Markets and Incentives: a historical-theoretical perspective • Market Power & Regulation • ENGAGE | <p>Compulsory:</p> <ul style="list-style-type: none"> • Public Economics * • Applied Econometrics * • Program Evaluation * <p>4 electives:</p> <ul style="list-style-type: none"> • Advanced Macroeconomics • Advanced Microeconomics • Industrial Organization ** • Development Economics • Environmental & Resource Economics ** • Time series ** • Panel Data ** • Corporate Finance ** • Market Finance ** • Empirical Industrial Organization • Topics in Food Economics • Behavioral and Experimental Economics • Dynamic Optimization • Martingales Theory and Applications • Data Bases • ENGAGE |
| <p>Optional courses</p> <ul style="list-style-type: none"> • Introduction to SAS (for newcomers in the first year of master) • Algebra refresher • Probabilité refresher • Static optimization refresher | <p>Compulsory International internship or Master Thesis 1 *</p> |

*UE1/UE2/UE5 : A minimum score of 10 out of 20 is required

**Masters 2 Directors highly recommend to attend these options :

- Industrial Organization: M2 EMO
- Environmental & Resource Economics: M2 EEP
- Economic of Human Development: M2 PPD
- Corporate finance et Market Finance: M2 Finance
- Panel Data or Time series: M2 EEE

*** Math refresher courses opened to M1 and M2 students

To obtain the Econometrics and Empirical Economics Master's degree, students need to complete all the courses of the first semester and the equivalent of four courses of 30 hours on the second semester, and either:

- do an internship within a firm (public or private), a financial institution (bank, insurance), a government institution (competition or regulatory authority), or a research laboratory, and write an internship report or
- Write a Master Thesis under the supervision of a TSE faculty.

COURSES

2nd Year - Master in Econometrics and Empirical Economics

| SEMESTER 3 | SEMESTER 4 |
|--|--|
| Compulsory courses: <ul style="list-style-type: none"> Econometric Methods for Empirical Economics Empirical Industrial Organization Nonparametric Econometric Methods Machine learning for economics Database Management System Programming in Python | Compulsory courses: <ul style="list-style-type: none"> Empirical project 1 among 2: <ul style="list-style-type: none"> Advanced Panel Data*** Panel Data 1 among 2: <ul style="list-style-type: none"> Multivariate Time Series**** Time series 1 among 2: <ul style="list-style-type: none"> Financial Econometrics Randomized Control Trials and Policy Evaluation |
| One course to choose among: <ul style="list-style-type: none"> Datanomics : regulation of data spreading and data protection Project Management (i) Ethics of Social Studies Non-Mandatory: <ul style="list-style-type: none"> Professional Development * Algebra Refresher ** Probability Refresher ** Dynamic Optimization Refresher *** | Equivalent of 9 credit among: <ul style="list-style-type: none"> Data Analytics (3) Financial econometrics (6) Randomized control trials and policy Evaluation (6) Econometric Approach to Efficiency Analysis (3) Health Econometrics (3) High-dimension models (3) Topics in Econometrics and Empirical Economics(6) Spatial Econometrics (2) |
| | Internship or Master Thesis |

*UE1/UE2.UE5. A minimum score of 10 out of 20 is required

**Masters 2 Directors highly recommend to attend these options :

- Industrial Organization: M2 EMO
- Environmental & Resource Economics: M2 ERNA
- Development economics: M2 PPD
- Corporate finance et Market Finance: M2 Finance
- Panel Data or Time series: M2 EEE

*** Math refresher courses opened to M1 and M2 students

ADMISSIONS

Admission is based on academic excellence.

First year admission :

- Aimed at English speakers
- Students should hold a BSc in Economics or Applied Mathematics within a recognized curriculum considered as consistent with the program and approved by the TSE selection committee.

Second year admission:

- Admission is based on academic excellence criteria.
- Applicants from the French system must have passed the TSE International track Master 1 (1st year Master's) in Economics or another French University master in Applied Mathematics or an equivalent degree (e.g., engineering school,...).
- For foreign degree holders, the required degrees are either a BSc, M.A., or MSc, within a recognized curriculum regarded as consistent with the program and approved by the TSE Selection Committee.
- Some brushing-up in Economics or Maths might be advisable in some cases. Working knowledge of English is obviously required.

APPLICATION DEADLINES

For the 1st year, students have to apply to the Master in Economics. For the 2nd year, students have to apply to the Master in Econometrics and Empirical Economics.

For more details about requirement documents and application process, please see the [Admission section](#).

CONTACT

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