

Program 2023/2024



AIMS AND SCOPE

Global risks can jeopardize the functioning, stability and prosperity of communities, companies and organizations. How can we anticipate risks, evaluate risk exposures, mitigate and prevent threats, enhance resilience, and guide the management response when shocks occur? The Master 2 TSE “Economics of Global Risks” (EGR) prepares students to provide answers to this type of questions.

In the 1st year, students attend a rigorous academic program in the different economic disciplines and quantitative techniques for social sciences. The common core courses allow them to deepen their knowledge and the elective courses allow students to build up their career plans, taking into account the specializations in the second year of the master’s programs.

In the 2nd year, the Master in Economics of Global Risks aims at offering courses that equip students with the fundamental approaches in economics, the methodological tool box, and insights about the nature of global risks that they need to know as future risk professionals that prepare companies, organizations and communities for new sources of threats. These global risks include climate change, biodiversity and other threats to the natural environment, pandemics, financial and macroeconomic crises, cyber risks, terrorism, as well as other threats.

EGR Master students will master the analytical tools that allow them to work in risk analysis, evaluation and in strategic functions, for example in insurance companies, banks, consultants in strategy and in economic analysis, public bodies like central banks, regulators, public health authorities, multinational organizations in finance and economic development, companies in security...

Courses **are taught in English** by TSE faculty members with outstanding **international reputation in finance, risk management, macroeconomics, econometrics, data science, microeconomics of decisions, environmental economics**, and other fields. Due to the broad nature of knowledge and the multiple skills required of successful risk professionals and economists, the Master reaches across different fields in economics, and also exposes students to other disciplines including climate science, ecology and epidemiology. The course training is completed with an empirical project related to global risks.

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

1st Year - Master in Economics International Track

SEMESTER 1	SEMESTER 2
Compulsory: <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 * 2 electives: <ul style="list-style-type: none"> • Environmental economics • Economic History • Evolution of economic behaviour • Understanding Real World Organizations • Markov Chains and applications**** • Probability Modeling • Project Management • Experimental economics • Political Economy • Market Power & Regulation • Markets and Incentives: a historical-theoretical perspective • ENGAGE 	Compulsory: <ul style="list-style-type: none"> • Public Economics * • Applied Econometrics * • Program Evaluation * 4 electives: <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
Optional courses <ul style="list-style-type: none"> • Introduction to SAS (for newcomers in the first year of master) • Algebra refresher • Probabilité refresher • Static optimization refresher 	Compulsory International internship or Master Thesis 1 *

*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
- 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

COURSES

2nd Year - Master in Economics of Global Risks, International Track

SEMESTER 3*	SEMESTER 4*
<p>Compulsory courses:</p> <ul style="list-style-type: none"> • Finance and Quantitative Risk Analysis • Long-Term Asset Pricing • Scoring • Cost-Benefit-Analysis • Macroeconomics of Risks • Economics of Decisions and Enterprise Risk Management • Econometric Methods for Empirical Economics • Global Risks for a Living Planet: Climate, Biodiversity, Pandemics <p>Electives:</p> <ul style="list-style-type: none"> • Professional Development • Algebra Refresher*** • Probability Refresher*** • Dynamic Optimization Refresher*** <p>Choose 1 among 3:</p> <ul style="list-style-type: none"> • Datanomics: Regulation of Data Spreading and Data Protection • Project Management • Ethics of Social Studies 	<p>Compulsory courses:</p> <ul style="list-style-type: none"> • Understanding Global Risks • Financial Econometrics • Extreme risk Analysis • Multivariate Time Series • Empirical project <p>Options (5 ECTS):</p> <ul style="list-style-type: none"> • Advanced Environmental Economics (2.5) • Energy Economics and Climate Policy**(2.5) • Machine Learning (2.5) • Sustainable Finance (2.5) • Introduction to Python (2.5) <p>Internship or dissertation (a minimum of 16 weeks)</p>

*Seuls les étudiants ayant suivi le cours de Time Series en M1 en 2021-2022 peuvent suivre le cours de Multivariate Time Series en 2022-2023 - Sinon, les étudiants doivent suivre le cours de Time series en M1 en 2022-2023

** Sous réserve d'accord du directeur du programme M2ERNA, et sous réserve de places disponibles

(i) Les étudiants ayant suivi Project Management en M1, ne peuvent pas le reprendre en M2

(i) Selon les compatibilités de calendrier

To obtain the EGR Master's degree, students need to complete **eight 30-hour courses and the professional development course**

And to 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, write a report and make a defense
- or write a **Master Thesis** under the supervision of a TSE faculty and make a defense.

SKILLS

- to anticipate risks, evaluate risk exposures, mitigate and prevent threats, enhance resilience, and guide the management response when shocks occur. Processing and modeling of complex data
- Mastering statistical software and massive database management
- Gaining direct exposure to professional work environments with statistical consulting workshops and apprenticeships

CAREER/JOBS

- Economists, analysts, consultants, insurers, insurance and re-insurance brokers, banks and asset managers
- Careers in companies (energy, infrastructure and logistics, manufacturers and suppliers of essential goods such as food, mobility services, networks, security, information technology, intermediaries and multinational organizations in finance), consulting firms (in strategy and in economic analysis), national or international institutions (public bodies like central banks, regulators, public health authorities) and non-profit organizations that strive to prepare for anticipated and unexpected shocks and frictions, large and small.

ALUMNI AND PROFESSORS FEEDBACK

Julie Meslin

Master in Economics of Global Risks – TSE student

The Master in Economics of Global Risks is quite unique in France since only a few universities and school offer such diverse and complete programs in risks analysis and management. The teaching is of high quality and provides students with good applications and projects that are really helpful in their future career.

I particularly appreciated the diversity of this master, i.e. in economics, biodiversity and finance. I especially enjoyed the Cost Benefit Analysis (CBA) and Global Risks for a Living Planet courses. The 1st one because its content is very related to professional application. The 2nd one because it focuses on another facet of the risks (i.e. global warning) and allow to learn more about biodiversity.

Nikolaos Papoulias

Master in Economics of Global Risks – TSE student

This program had sparked my interest from the very beginning because of its interdisciplinary approach to global risks and its macroeconomic focus. As the war in Ukraine and the subsequent energy crisis was unfolding, I was even more convinced for the merit of the programme as we are leading towards a very uncertain world in which the role of risk management will be even more important.

The program includes a mix of courses that I find very interesting for instance the Cost Benefit Analysis course as it is fully applied to policymaking. Long-term asset pricing is another of my favourite course because the curriculum included state of the art methods for determining the discount factor used for environmental goods, a topic at the heart of climate action. In general, TSE's approach to learning highly relies upon empirical projects, when it is feasible, I highly appreciated the course on Macroeconomics of Risks as it provided us with an insight in the impact of risk in the macroeconomy and empirical methods to identify risk through data.

ADMISSION

Admission is based on academic excellence.

First year admission :

- Aimed at English speakers
- Students should hold a BSc in Economics, 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 Economics of Global Risks.

Applications are considered in November for Eiffel scholarship applicants and in January for other international students and French degree holders applying to the 1st year. Applications to the second year take place in May for French degree holders.

For more details about requirement documents and application process, please see the Admission section.

CONTACTS

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