



INTRODUCING THE MASTER'S PROGRAMME IN ECONOMICS WITH DATA SCIENCE

The new Master's programme in Economics with Data Science offers a comprehensive and innovative education over four semesters of full-time study. Designed for those who want to combine economic theory with cutting-edge Data Science and Artificial Intelligence (AI), the programme provides both a strong theoretical foundation and hands-on experience with modern analytical tools.

A UNIQUE FOCUS ON DATA SCIENCE AND AI

A defining feature of this programme is its systematic integration of Data Science and AI methods — from traditional machine learning to emerging generative AI — within an economic context. Students gain a deep understanding of economic principles while mastering advanced data analysis techniques. They learn to collect and structure large datasets, simulate economic models (including AI-driven simulations), and produce data-based forecasts and empirical insights. This explicit emphasis on new technologies positions graduates to tackle real-world challenges and adapt to an ever-evolving industry.

Programme Structure and Flexibility

1. Compulsory Modules

In the first semester, five core compulsory modules set the methodological and theoretical groundwork:

- Foundations in Economics with Data Science
- Principles of Data Science
- Microeconomics
- Macroeconomics
- Econometrics

2. Electives

Spanning the second and third semesters (with one elective also required in the fourth), this segment allows students to tailor their studies to their interests. Key components include:

Seminar Module: Deepens skills in academic research and writing, while focusing on specialized economic topics.

Empirical Research in Economics: The module offers practical experience in applied economic research using modern data science methods. Projects may involve external partners, fostering teamwork, intercultural collaboration, and self-organization. Students

present their findings in both presentations and scientific posters under the supervision of two professors.

Free Elective Area: Seven modules can be selected from a broad range of advanced courses in economics and data science/AI. These may include topics such as computational economics, algorithmic game theory, machine learning for economists, causal inference, forecasting, big data infrastructure, and responsible AI. Students may also replace one module with a second seminar. Study abroad modules can be credited here, enabling substantial flexibility in shaping an individualized profile.

A Further Compulsory Module: Planned for the third semester, allowing for specialized learning options such as the BRICS Certificate or language courses.

3. Master Thesis

In the fourth semester, students complete the Master Thesis, demonstrating the ability to apply newly acquired analytical and methodological skills to a complex economic question, often leveraging advanced data science or AI techniques.

MODULAR AND HIGHLY FLEXIBLE

The programme's modular structure empowers students to curate a custom academic experience, supported by mentoring and recommended "profile areas." This structure ensures every graduate emerges with a robust skill set tailored to their professional interests, whether in research, business, or public policy.

EMPOWER YOUR FUTURE

By fusing modern Data Science practices with strong economic foundations, this Master's programme equips graduates with the analytical acumen and technical expertise essential in our data-driven world. Begin your journey in Economics with Data Science and forge a path toward leadership in today's rapidly evolving digital economy.

ACADEMIC BACKGROUND AND APTITUDE

To succeed in this advanced economics programme with a strong data science component, applicants are expected to demonstrate the following qualifications and motivation:

- A Bachelor's degree in Economics or a closely related field
- Fluency in English, both spoken and written
- A strong foundation in mathematics and statistics, including probability theory and econometrics
- Prior exposure to statistical or programming tools (e.g., R, Python) is helpful but not required
- An intrinsic interest in economic thinking, questions, and applications