Master of Science in
FINANCIAL ENGINEERING
2-year program - 120 ECTS

Foundation courses 30 ECTS
- Accounting for Finance
- Econometrics
- Introduction to finance (only for IF students)
- Macrofinance
- Optimization methods
- Stochastic Calculus
- Project in human and social sciences

Advanced courses 32 ECTS
- Advanced derivatives
- Derivatives
- Financial Econometrics
- Interest rate and credit risk models
- Investments
- Quantitative risk management

Optional subjects 28 ECTS
- Advanced machine learning
- Applied data analysis
- Applied machine learning
- Computational finance
- Cryptography and security
- Data science for business
- Data science in practice
- Financial big data
- Financial applications of blockchains and distributed ledgers
- Global business environment
- Information security and privacy
- Information: strategy & economics
- Intelligent agents
- Machine learning
- Machine learning for finance
- Machine learning programming
- Mathematical modelling of behavior
- Modern regression methods
- Network analytics
- Numerical analysis and computational mathematics
- Numerical approximation of PDEs
- Numerical integration of stochastic differential equations
- Principles of microeconomics
- Real options and financial structuring
- Risk, rare events and extremes
- Statistical machine learning
- Time series
- Venture capital

Career Prospects
At the end of their studies, MFE students have the perfect profile to start a career in a bank, a hedge fund, a rating or consulting company, an insurance company, a commodity trading firm or in an asset management company. They will be able to apply their knowledge of cutting-edge techniques and their practical know-how to arrive at well-balanced and sound financial decisions. For students interested in an academic career, the MFE is also an ideal stepping stone to join a top-level PhD program in finance.

Admission Requirements
- Bachelor’s degree in a technical discipline such as Mathematics, Physics, Computer science, Engineering or Economics.
- Solid background in mathematical analysis, statistics and probability theory.
- Command of either one programming language such as C, C++ or Python or an interpreted one (Matlab or Mathematica).
- Fully at ease with computers and fluent in English.

College of Management of Technology
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