



# PROGRAM INFORMATION

## MASTER IN FINANCE AND DATA ANALYTICS (MFDA)



Master in Finance and Data Analytics (MFDA) is a two-year English-language Master's degree program that is designed to pair study in the key areas of finance and data analytics. The program takes a data-driven approach to the analysis of financial markets and organizational information. It covers key theoretical principles of finance, financial modelling and financial markets to prepare students for a dynamic career in finance, banking, and a range of other sectors. The program's graduates will gain quantitative, statistical and technical skills crucial to modern finance. Graduates will have the expertise to independently define and creatively solve a wide range of theoretical and practical problems. The emphasis of the MFDA program is on advanced econometrics and advanced statistical methods including machine learning and data analysis. In particular, courses teach skills in analysis of Big Data, modern approaches to asset pricing using statistical learning, and understanding financial instruments, advanced econometrics, machine learning, behavioral finance, and time series analysis. Courses are taught by faculty members of the Institute of Economic Studies (IES) and external professionals from international institutions, central banks and the financial industry.

|          |                                                                       |
|----------|-----------------------------------------------------------------------|
| Duration | 2 years                                                               |
| Language | English                                                               |
| Tuition  | 6,000 EUR/ year                                                       |
| Web      | <a href="https://fsv.cuni.cz/en/mfda">https://fsv.cuni.cz/en/mfda</a> |
| E-mail   | <a href="mailto:admissions@fsv.cuni.cz">admissions@fsv.cuni.cz</a>    |

### Core Courses

Compulsory core courses introduce students to advanced topics in econometrics as well as data analysis and finance. The core courses are intended to give students a broad overview of the major topics in finance and data analysis, and provide them with a solid background for further studies in specialized elective courses.

- Master's Thesis Seminar (10 credits)
- Master's Thesis Seminar II (10 credits)
- Advanced Econometrics (9 credits)
- Applied Econometrics (6 credits)
- Financial Econometrics I (6 credits)
- Financial Markets (6 credits)
- Data Processing in Python (5 credits)
- Data Science with R I (6 credits)
- Data Science with R II (6 credits)

### Field Elective Courses

Field elective courses cover a wide range of areas in economics and finance, which allow students to specialize in the field of their interest. The topics include:

- applied finance and investment (e.g. machine learning in finance, corporate finance, asset pricing, financial markets instruments, international finance, company valuation, real estate investment).
- advanced economic theory (e. g. business cycles theory, economic dynamics)
- applied economics and economic policy (e. g. monetary economics, international macroeconomics)

We also offer courses in complementary areas (e. g. strategic management, corporate governance, law and regulation). Students are required to earn at least 44 European Credit Transfer System (ECTS) credits for elective courses.



### Off-Field Elective Courses

Off-field elective courses can be taken at any department of Charles University or at any partner university. Students may take 12 ECTS credits outside of the Institute of Economic Studies. These credits can also be used for Czech language classes offered by the Faculty of Social Sciences.

### Graduation Requirements

Besides completing 120 ECTS credits, students must also write and defend a Master's Thesis. Every student chooses a supervisor who will guide him/her through the thesis-writing process. Two compulsory Master's Thesis seminars are offered to help students improve their academic writing skills.



### Scholarships

Students can apply for a number of scholarships. Roughly half of our applicants are eligible for scholarships, which are awarded based on the applicant's merit for the first year of studies and in following years on the basis of actual academic results. More information can be found on the faculty [website](#).

### Tuition Fee

The tuition fee covers the cost of instruction, examinations, and access to libraries and computer laboratories. It does not cover the cost of textbooks and other teaching materials, nor living expenses such as accommodation, meals, etc. The university provides assistance to students interested in affordable accommodation in student dormitories. The tuition fee for the MFDA program is 6,000 EUR/year, half of which is payable at the beginning of each semester.

### Application Prerequisites

Since the program exposes students to advanced topics in economics and finance, applicants are required to have a sufficient background in mathematics. Applicants should have studied at least two semesters of Bachelor-level mathematics. Prior knowledge of Bachelor-level economics or finance is an advantage but is not required. In addition, applicants must have a good command of English, corresponding at least to the B2 level under the Common European Framework of Reference (CEFR) system. They should be capable of reading a Master's-level textbook without difficulties. We especially welcome applicants with Bachelor's degrees in economics, finance, business studies, mathematics, physics, or engineering.

### Admission

There is no formal entrance examination. We evaluate the complete application package provided by the applicant. We welcome highly motivated applicants with a consistently strong academic track record. Applicants must be able to demonstrate sufficient competence in mathematics and English. Such competence is best proven by dedicated standardized tests, e. g. the GMAT or GRE for mathematics and abstract conceptual thinking, and TOEFL, IELTS, or similar tests for English. We do not require standardized tests from students who can demonstrate their competence in these two areas in other ways, e. g. with a Bachelor program studied in English and/or high grades from quantitative courses at the Bachelor level. For detailed information, see the Admission Requirements Factsheet.



### Application Fee

After completing their application form applicants will receive an e-mail with information about how to pay the application fee. We encourage applicants to make their payment on time as we are only able to process an application after we have received payment of the application fee.