Data Analytics & Economics

Degree conferred
Master of Science in Data Analytics & Economics

Options
Option of an award bearing the distinction «The candidate completed the programme in French and English».

Languages of study
Study in English. Some courses in French or German can also be chosen.

Commencement of studies
Commencement of studies in the Autumn Semester (September) or in the Spring Semester (February)

Special features for admission
For the holders of a foreign bachelor's degree, access to this master depends on the curriculum of the candidate. In rare cases, proof of sufficient English language skills may be required by the Office for Admissions and Registration; see http://studies.unifr.ch/go/en-admission.
Candidates who have completed their bachelor studies outside of the EU or the EFTA and who wish to apply to this study programme must add a copy of the GMAT examination results to their application for admission (https://www.mba.com/global).
The exam must have been taken before applying online to the University of Fribourg.

Access to further studies
This master programme qualifies students for the doctoral programme **Economic and Social Sciences**.

The master programme in Data Analytics & Economics combines state-of-the-art training in data analytics and economics, taking into account the demands of digitalisation.
This makes it the first master's degree in Switzerland to combine data analytics with the economics of markets and organisations. Skills in both these areas are crucial to understanding, shaping and regulating future markets and organisations. Internet platforms, recommender systems and dynamic pricing are just some examples of current fields of application in which this kind of profile is in high demand.
The uniqueness of this master programme lies in its combination. Students not only learn how to handle big data sets, work with artificial intelligence and program in Python and R; but also to understand markets, evaluate strategies, and analyse the economics of platforms. Skills in these areas open up outstanding career opportunities, in particular in Internet and technology companies, consulting and the public sector.

The study programme is divided into the two compulsory modules: Data Analytics, and Economics of Markets and Organisations. In addition to these two core areas, students have the possibility to specialise individually through elective courses. The language of study is English; additional courses are available in French and German.

Profile of the study programme

The buzz words *big data* and *digital economy* are indicative of two fundamental developments: the increasing availability of data and data analysis tools on the one hand, and the radical change in markets due especially to Internet platforms on the other. Growing numbers of business models are based on this, and so understanding, shaping and regulating them is of key social importance.

One of the many relevant areas is that of Internet platforms, such as booking or sales platforms. These combine complex economic decisions by market players with computer-assisted generation and analysis of data, which is then used for optimisation by means of statistical learning. Similarly, recommender systems and dynamic pricing systems are also based on data analysis and economic decisions. Consequently, more and more business sectors demand both a mastery of statistical methods and an understanding of their economic implications in order to analyse and improve strategic decisions. Moreover, economic skills are important for shaping rules of play (e.g. of sales platforms) and designing regulations (e.g. by the competition authorities). To meet the training needs of the digital transformation, this master programme is rooted in economics, statistics and computer science.

The master programme is divided into two compulsory modules, I and II, and one elective module. *Module I* «Data Analytics», covers statistical, econometric and computer science methods of data analysis, while *module II* «Economics of Markets and Organisations», covers the relevant economic concepts. These compulsory modules teach students skills in the key areas of the master programme. The elective module comprises a wide range of courses that apply the techniques and concepts of compulsory modules I and II to various specialist fields. The freedom to choose courses from this module enables students to specialise according to their own individual interests.

Fribourg profile
The Faculty of Management, Economics and Social Sciences introduces state-of-the-art scientific knowledge into its teaching and thus ensures the excellence of its study programmes. Students are empowered to provide answers to economic, social and business-related issues, and to implement them in practice. The favourable staff-student ratio, the strong orientation towards real-world applications and the multilingual environment optimally prepare students for the challenges of the Swiss and international labour markets.

Learning outcomes and career openings
Due to digitalisation there is high and increasing demand for a training profile that provides technical skills in data analysis as well as conceptual skills in economic decision-making in organisations

and markets. By combining data analytics with the economics of markets and organisations, this master programme satisfies these needs.

The Master of Science in Data Analytics & Economics at the University of Fribourg opens up excellent career opportunities in the private and public sectors.

Career prospects:

- Internet and technology companies (e.g. data analytics, conducting of experiments or A/B testing, marketing analysis, product management, interface function between experts and public);
- Consulting (e.g. data and computer-assisted strategy consulting, market design consulting);
- Banks and other organisations (e.g. data analytics, market research, corporate management);
- Public administration (e.g. data-based analysis and optimisation of state interventions, advice on regulation, competition authorities).

Studies organisation

Structure of studies

90 ECTS credits, 3-4 semesters

Curriculum

http://studies.unifr.ch/go/8knyG

Admission

Master's degree programmes are built on the knowledge and abilities that were acquired when obtaining a bachelor's degree.

Holders of a bachelor's degree awarded by a Swiss university are admitted to a master's degree programme without any preconditions if they have earned 60 or 90 ECTS credits – depending on the chosen master's degree programme – within the corresponding discipline. However, additional requirements can be required. The same applies to holders of a bachelor's degree awarded by a foreign university, provided that the bachelor's degree is recognised and considered equivalent by the University of Fribourg.

Holders of a bachelor's degree awarded by a Swiss or a foreign university, provided that the bachelor's degree is recognised and considered equivalent by the University of Fribourg, who do not fulfil this condition can be admitted to a master's degree programme with preconditions (which must be successfully completed before starting the master's degree programme) and/or additional requirements (which can be completed during the master's degree programme). The preconditions and/or additional requirements may not exceed 60 ECTS credits in total. The same applies to holders of a bachelor's degree awarded by a Swiss university of applied sciences, according to existing agreements.

The respective conditions of admission for each master's degree programme are reserved.
Admission requires a bachelor's degree (at least 90 ECTS credits) which covered the following courses at the Faculty of Management, Economics and Social Sciences of the University of Fribourg, or an equivalent range of courses at another faculty/university:

– Mathematics I (4,5 ECTS)
– Mathematics II (4,5 ECTS)
– Microeconomics I (6 ECTS)
– Microeconomics II (6 ECTS)
– Statistics I (4,5 ECTS)
– Statistics II (4,5 ECTS)
– Statistics III (4,5 ECTS)
– Information Systems I (6 ECTS)
– Information Systems II (6 ECTS)

Alternatives

Also offered as a minor study programme (*Data Analytics*, 30 ECTS credits).

Contact

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