The major study programme in Mathematics programme is supplemented by one or two minors that students can choose freely. In addition to physics, computer science and economics, which are traditionally closely linked to mathematics, other fields of study in Science or the Arts and Humanities can also be chosen.

Fribourg profile

The programme of the first two academic years is largely determined by mandatory courses. The main focus consists of a multi-semester lecture series on analysis, algebra and geometry. During the second academic year, introductory courses on applied mathematics, especially numerical mathematics and probability theory, and statistics are added. The courses consist of lectures that serve to quickly and efficiently impart knowledge in a concentrated form and corresponding exercises in which what has been learned is applied independently deepening the knowledge through practical use.

The content of the programme during the third academic year is not so defined, although there are rules that ensure that the training is not too one-sided. The courses require thorough command of the methods and content learned during the first two years of study. Among a wide range of courses, students choose further lectures that correspond to their interests and inclinations. In this way they prepare themselves for a further specialisation within the Master's programme. During seminars they learn to deal with more complex mathematical problems and to present their results in lectures and written work. There is close cooperation with the neighbouring universities in Berne and Neuchâtel, whose course programmes are also open to the students from Fribourg.

The study of mathematics in Fribourg is bilingual. Approximately half of the courses are held in French and the other half in German. During exams students are free to choose their language. Beginning in the third year, and during the Master's programme, English is added as a further language of study.

Learning outcomes and career openings

Due to the wide use of mathematical methods and ways of thinking in very different areas of business, science and administration, there is no fixed professional profile for mathematicians. There are typical fields of work at banks, insurance companies, management consultancies, in schools and universities, authorities and statistical offices, in industrial research and development, in information technology, logistics, meteorology, image processing and security technology.

In addition to in-depth mathematical knowledge, the main focus often lies on the skills that are promoted during the studies: clear, structured and substance-oriented thinking, a systematic, targeted approach to tasks, analytical creativity, capacity for abstraction and the ability to see relationships and to quickly find one's way with new types of problems and unfamiliar tasks.

Studies organisation

Structure of studies

120 ECTS credits + 60 ECTS credits in one or two minor study programmes freely chosen, 6 semesters

Curriculum

http://studies.unifr.ch/enbachelor/sci/mathematics
Admission

The following Swiss school-leaving certificates grant admission to Bachelor programmes at the University of Fribourg:

- Swiss academic Maturity Certificate
- Swiss vocational or specialised Baccalaureate in conjunction with the supplementary exam certificate from the Swiss Maturity Commission
- Bachelor Degree from a Swiss university, from an accredited Swiss university of applied sciences (HES/FH) or from a Swiss university of teacher education (HEP/PH)

A complete list of all further recognized Swiss school-leaving certificates is to be found on the webpages of swissuniversities (in French and German only): http://studies.unifr.ch/go/en-admission-swiss-certificates

Foreign upper secondary school-leaving certificates are recognised only if they correspond substantially to the Swiss Maturity Certificate. They must qualify as general education. Foreign school-leaving certificates are considered to be general education if the last three years of schooling include at least six general education subjects, independent from each other, in accordance with the following list:

1. First language (native language)
2. Second language
3. Mathematics
4. Natural sciences (biology, chemistry or physics)
5. Humanities and social sciences (geography, history or economics/law)
6. Elective (an additional language or an additional subject from category 4 or 5)

The general admission requirements to the Bachelor programmes at the University of Fribourg for holders of foreign school-leaving certificates as well as the admission requirements for individual countries are to be found on the webpages of swissuniversities: http://studies.unifr.ch/go/en-admission-countrylist

In addition, foreign candidates must present proof of sufficient language skills in French or German.

The assessment of foreign school-leaving certificates is based on the «CRUS Recommendations for the Assessment of Foreign Upper Secondary School-Leaving Certificates, 7 September 2007» (http://studies.unifr.ch/go/crus07en). The admission requirements are valid for the respective academic year. The Rectorat of the University of Fribourg reserves the right to change these requirements at any time.

Alternatives

Also offered as a minor study programme (60/30 ECTS credits).

Contact

Faculty of Science and Medicine
Department of Mathematics
Dr Patrick Ghanaat