# Biomedical Sciences

**Degree conferred**
Bachelor of Science in Biomedical Sciences

**Languages of study**
Study in French and German

**Commencement of studies**
Commencement of studies only in the Autumn Semester (September)

**Special features for admission**
Applications for admission must be submitted by April 30 each year at the latest for a commencement of studies in the autumn. **Late application is not possible**.

**Access to further studies**
Master

This bachelor programme in biomedical sciences is for students interested in the scientific aspects of human medicine preparing for a career in biomedical research or in other areas of the health system.
The course of study is based on a systemic biological approach focused on the human being. Emphasis is on studying the response of organs to changes in the environment and the adaptation mechanisms involved, inside or outside the human organism.
It combines teaching the most modern research methods in living sciences and basic education similar to that of the medical curriculum. Practical work and internships in research groups also favour the acquisition of fundamental know-how.
Holders of this degree can then access master's studies in biomedical sciences within the framework of the inter-university convention between the Universities of Fribourg and Bern (BEFRI).

## Profile of the study programme

The course of study is based on a systemic biological approach focused particularly on the human being. It combines teaching the most modern research methods in living sciences and basic education similar to that of the medical curriculum, focused on the in-depth understanding of the main systems of the human body. In biochemistry, phenomena of the living world are studied, essentially molecules and cells. In biology, an overview of living beings, animals and plants, is provided. The biomedical branch puts emphasis on studying the response of organs to changes in the environment and the adaptation mechanisms involved, inside or outside the human organism. These phenomena can only be observed on the scale of the isolated cell; animal experimentation and clinical studies carried out on patients are therefore essential methods for research in biomedical sciences.

The biomedical sciences programme is for students who are interested in the scientific aspects of human medicine: the scientific foundations of the human body's structures and functions, the mechanisms that cause illnesses, and the development of new diagnostic and therapeutic methods. These students are preparing for a career in biomedical research, but they do not wish to practise the profession of a doctor looking after a sick person. With the right additional education, they can also go on to have a career in different areas of the health system (management, administration, etc.).

Students that successfully complete this programme will acquire in-depth knowledge of the different scientific aspects of human medicine: from the molecule to metabolic pathways, from the cell to the organ, from physiological function to pathology. In practical work and internships in research groups, students also acquire fundamental and essential know-how enabling them to work in biomedical research. The combination of these two types of skills is the first step in preparing for an academic or industrial research career.

**Learning outcomes and career openings**
Holders of this degree can then access master's studies in biomedical sciences within the framework of the inter-university convention between the Universities of Fribourg and Bern (BEFRI). The study programme is organised by the Faculty of Medicine of the University of Bern; the master's thesis may, however, also be carried out at the University of Fribourg. All BEFRI biomedical studies allow the student to acquire in-depth complementary knowledge in the medical field, which will open up possibilities in different careers in research, industry, economy or administration.

**Note for students already registered at the University of Fribourg**
Students already registered at the University of Fribourg during the academic year preceding the start of their Biomedical Sciences course can request a change of degree programme for the following autumn semester by the second week of the semester at the latest.

## 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/go/mjkY5 *(French)*
http://studies.unifr.ch/go/0fTFn *(German)*

**Admission**

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

- Swiss academic Maturity Certificate

- Federal vocational or specialised Baccalaureate + supplementary examination of the Swiss Maturity Commission (passerelle)
- 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 recognised Swiss school-leaving certificates** is to be found on the webpages of swissuniversities (*in French and German only*): https://studies.unifr.ch/go/fr-admission-swisscertificates; https://studies.unifr.ch/go/de-admission-swisscertificates
**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, among other things, the last three years of schooling include at least six general education subjects, independent from each other, in accordance with the following list:

1. Language of instruction (at the school)
2. Second language (a foreign language)
3. Mathematics
4. Natural sciences (biology or chemistry or physics)
5. Humanities and social sciences (geography or history or economics/law)
6. Elective (computer sciences or philosophy or 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: https://studies.unifr.ch/go/en-admission-countries
In addition, applicants with foreign school-leaving certificates must present **proof of sufficient language skills in French or German**.
All guidelines are available at *(only in French and German)*: https://studies.unifr.ch/go/adm-guidelines

*The assessment of foreign school-leaving certificates is based on the «Recommendations for the Assessment of Foreign Upper Secondary School-Leaving Certificates» adopted by the Chamber of universities of swissuniversities on 21.11.2024 (*https://studies.unifr.ch/go/swissuniversities24fr*;* https://studies.unifr.ch/go/swissuniversities24de*). 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.*

## Contact

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