The first academic year is the same for all students and constitutes the scientific foundation for the higher semesters. It imparts the necessary and indispensable scientific basic knowledge for the study of biology, the so-called propaedeutic subjects (general biology, organism biology, chemistry, mathematics and physics). During the second and third years, depending on the student's interests, a specialisation in Biology I (organism biology, evolution and ecology) or Biology II (molecular biology, biochemistry, genetics and cell biology) is chosen. Both orientations are, however, not entirely independent of each other, because many lectures and practical courses are common to both. They can also in part be combined with each other.

Whether the orientation Biology I or Biology II is chosen, the Bachelor's programme consists of the major subject, plus one or two selectable additional subjects. The major subject includes the propaedeutic subjects as well as many lectures, exercises, practical courses, seminars and a Bachelor's thesis in a research unit. The courses in biology are held in German and French.

**Biology I**
Ecology consists of the study of living organism and their interplay with their biotic environment – the other living organisms – and the biologically dead environment. The understanding of this interrelationship is seen solely within the context of evolutionary theory. These two aspects are thus closely linked to each other. The areas of ecology and evolution are encompassing and varied, ranging from the study of micro-organisms to the study of natural ecosystems, from the dynamics of populations to the understanding of the processes of species creation. Because of the global changes that are due to human activities, ecology has become a main issue in society. The protection of biological diversity, the study of biodiversity and the functioning of ecosystems are very active areas of research. Due to its diversity, the study of ecology and evolution calls for a solid basis in general and molecular biology, genetics, and knowledge of species, but also in chemistry, physics and especially mathematics and statistics. This orientation covers different areas, whereby theoretical lectures, laboratory courses, and field work are offered.

**Biology II**
The lectures in this orientation course are strongly focused on research projects within the field of zoology and plant biology conducted in molecular biology on animal and plant model systems (C. elegans, Drosophila, zebrafish, mouse, Arabidopsis and Petunia). In addition to the conventional strategies in molecular biology, biochemistry, genetics and cell biology, the spectrum of experimental methods also encompasses other modern techniques, such as fluorescence and confocal microscopy, «high throughput»
Course offerings 20/21 | AS20
Study programme description
Bachelor

DNA sequencing and analysis of results with bioinformatic methods, purification and analysis of protein complexes and mass spectroscopy, PCR and the production of transgenic microorganisms, plants or animals.

Professional openings
The biology studies at the University of Fribourg are thus suited for students who later wish to offer a broad range of skills on the job market in the areas of molecular and organismic biology.

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 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 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: 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).

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