Bioinformatics and Computational Biology

The study programme of the first semester builds upon your expertise in biology, biochemistry or life science, or respectively in mathematics, computer science or physics and complements your background with individually tailored courses in programing, statistics or fundamental biology. In the second semester you will then concentrate on the major topics in bioinformatics and computational biology, namely in data management, the analysis of sequence data, modeling of biological systems, image analysis and systems biology. The so acquired skills will further be reinforced through intensive hands-on training and practical courses. The third semester is then devoted to your own research project that you will conduct in an internationally recognized research lab at the University of Fribourg or Bern. Alternatively, your project may also be conducted in collaboration with an affiliated institute (e.g. the Swiss Institute of Bioinformatics), a governmental institution or the private sector.

Learning objectives and career opportunities
Our Master programme in Bioinformatics and Computational Biology will trim you fit for a career in the life sciences, health science or in food technology, both in industry or in governmental or non-governmental organizations, as well as for a PhD in academia. Bioinformatics and computational biology have direct and highly sought applications in basic and applied research ranging from conservation biology and modeling molecular networks to epidemiology, biomedical engineering and drug design, artistic data visualization and developing human-computer interaction. Our programme further promotes the exchange and interaction with people from many different fields, which will considerably widen your job prospects in academia as well as in the private sector.

Studies organisation
Structure of studies
90 ECTS credits, 3 semesters
Curriculum
http://studies.unifr.ch/go/dPk5p
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 from a Swiss university can be admitted to a Master's degree programme within the corresponding discipline (requires the acquisition of minimum 60 ECTS credits at Bachelor level in the corresponding discipline) without any additional requirements. 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 from a Swiss university or 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, can be admitted to a Master’s degree programme within another
discipline with prerequisites (must be successfully completed before starting the Master’s degree programme) or additional requirements (can be completed during the Master’s degree programme). According to existing agreements, holders of a Bachelor’s degree awarded from a Swiss university of applied sciences can also be admitted with prerequisites or additional requirements.

The respective conditions of admission for each Master’s degree programme are reserved. Bachelor degrees that are considered for direct admission to the MSc in Bioinformatics and computational Biology are:
– Biology
– Life Sciences
– Mathematics/Statistics
– Informatics/Bioinformatics
– Computational Sciences
– Physics

Contact
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