Become an expert!
Study Life Sciences and help improve the quality of people’s lives and of the environment
Quick Facts
Master of Science in Life Sciences FHNW

✓ A coordinated Master’s programme in Life Sciences conducted by the Swiss Universities of Applied Sciences

✓ Designed for motivated students interested in applied research

✓ Opens the door to outstanding career opportunities in research, development and production

✓ Specialisations offered by the University of Applied Sciences and Arts Northwestern Switzerland (FHNW):
  • Analytical Chemistry
  • Applied Cell Biology
  • Bioanalytics
  • Biomedical Engineering
  • Biotechnology
  • Chemical Engineering
  • Environmental Technologies
  • Organic and Supramolecular Chemistry
  • Pharmatechnology

✓ Three semesters full-time study, 90 ECTS credits; part-time studies possible

✓ Master’s thesis: 40 ECTS credits, modules: 50 ECTS credits

✓ Admission: good BSc degree in a relevant subject

✓ Admission deadlines: April 30th (autumn semester) and November 30th (spring semester)

✓ Start of studies: mid-September and mid-February

✓ Tuition fees: CHF 700.– per semester (Swiss, Liechtenstein), CHF 1000 (EU), otherwise CHF 5000.–
The FHNW School of Life Sciences
Introduction

The FHNW School of Life Sciences (HLS) is a leading Swiss institution for education and application-oriented research in Life Sciences. With a network of industry and research partners, the HLS is a unique university centred around technology development in medical, natural, environmental and engineering sciences. The state-of-the-art infrastructure facilitates translating cutting-edge research into practice. Benefits for patients, innovative products, intelligent solutions and environmentally friendly technologies are the ultimate goal.

The Master’s study programme combines lectures on applied life sciences with practical experience in an eight month Master’s thesis. The core of the life sciences study programme consists of scientific knowledge for research and development, coupled with practical experience. Students may assemble their own curriculum from available modules. In order to prepare optimally for a professional career, the course also covers essential management skills and offers modules for data literacy. Graduates are ultimately expected to prove their abilities in a competitive and international life sciences environment.
Analytical Chemistry

Career Opportunities
The Analytical Chemistry specialisation gives students an excellent foundation for work in industrial and academic fields. Demand for analytical chemistry specialists is continuously rising as technological developments and an increasing demand for deeper insights into biological systems on a molecular level drive research activities in life sciences. Consequently, studying analytical chemistry provides exceptional local, national and global work opportunities.

Entry Requirements
The MSc in Life Sciences – Analytical Chemistry is especially suited for students with a BSc degree in Chemistry, Biochemistry, Pharmacy or related fields.
Applied Cell Biology

Career Opportunities
Applied Cell Biology focuses on specific relevant cell biology applications in biotechnology and pharmaceutical research. From single cell assays to complex tissue engineering, applied cell biology is gaining importance in both academic and industrial research. Rapid technological advances, the increasing relevance of cell-based models, and the growing need to replace animal experimentation in research in the context of the 3Rs (Replace, Refine, Reduce) will put this field in the centre of pre-clinical research. Graduates of this course will become familiar with the use of mammalian cells for assay development, for drug discovery research and for regenerative medicine.

Entry Requirements
The MSc in Life Sciences – Applied Cell Biology is especially suited for students with a BSc degree in Biology, Biotechnology, Biochemistry or related fields.
Bioanalytics

Career Opportunities
The specialisation in Bioanalytics provides an excellent preparation for working in an industrial, academic or medical environment. The analysis of biomolecules such as drugs, metabolites, proteins, nucleic acids, microorganisms, etc. is gaining world-wide importance. Bioanalytics is central for product quality control and is fundamental to research and development of new products in the pharmaceutical, food and medical fields. The demand for specialists in Bioanalytics is also increasing thanks to technical advances which are opening up new analytical possibilities and strategies, e.g. in precision medicine.

Entry Requirements
The MSc in Life Sciences – Bioanalytics is especially suited for students with a BSc degree in Biochemistry, Chemistry, Biotechnology, Biology or related fields.
Biomedical Engineering

Career Opportunities
The Biomedical Engineering specialisation empowers diagnostics and therapy based on technology and engineering. The application of engineering skills for the benefit of patients requires detailed knowledge of human anatomy and physiology, a profound understanding of the human-device interface, and the consideration of the physiological, safety and treatment repercussions of using electronic and mechanical devices in medicine. Students gain an in-depth education in Biomedical Engineering, enabling them to work in a wide range of fields in Medtech companies.

Entry Requirements
The MSc in Life Sciences – Biomedical Engineering is especially suited for students with a BSc degree in Biomedical Engineering, Electronic Engineering, Mechanical Engineering or related fields.
Biotechnology

Career Opportunities
Vaccines, antibodies and viruses used for gene therapy are among the biotechnological products known as biopharmaceuticals. These complex products are prepared with biological systems and enable completely new ways of treating diseases. The Biotechnology specialisation encompasses research, development, manufacturing and commercialization of biopharmaceuticals, and offers graduates excellent job prospects in this fast-growing field in both academia and industry. Moreover, students acquire knowledge that can facilitate a future career in manufacturing as well as in related fields such as automation, digitalization, data analysis and project management.

Entry Requirements
The MSc in Life Sciences – Biotechnology is especially suited for students with a BSc degree in Biotechnology, Biochemistry, Chemical Engineering or related fields.
Chemical Engineering

Career Opportunities
Climate change, raw material scarcity, digitalization, and renewable materials instead of fossil fuels as the basis for platform chemicals are major global challenges. These challenges require processes which are sustainable, robust, well-engineered and rapidly available. Finding solutions requires highly trained specialists with sound scientific knowledge and the ability to develop, implement and successfully operate new processes.

Entry Requirements
The MSc in Life Sciences – Chemical Engineering is especially suited for students with a BSc degree in Chemical Engineering, Chemistry, Environmental Engineering or related fields.
Environmental Technologies

Career Opportunities
The specialization in Environmental Technology provides extensive knowledge for environmental specialists in industry and for environmental engineers in consulting and technology development firms. Climate change, rising resource demand and increasing diffusion of new pollutants requires specialists in environmental technology and the circular economy in leading global industrial companies.

Entry Requirements
The MSc in Life Sciences – Environmental Technologies is especially suited for students with a BSc degree in Environmental Technology, Chemical Engineering, Biotechnology or related fields.
Organic and Supramolecular Chemistry

Career Opportunities
The specialisation in Organic and Supramolecular Chemistry offers an outstanding preparation for work in both industrial and academic environments. Chemistry is known as the central science, connecting physical sciences with life sciences. Chemistry is of great importance, not only in the chemical industry but also in nearly every sphere of science, technology and numerous other industrial sectors. Consequently, the specialization in chemistry provides the basis for a diverse range of local, national and global employment opportunities.

Entry Requirements
The MSc in Life Sciences – Organic and Supramolecular Chemistry is especially suited for students with a BSc degree in Chemistry, Chemical Engineering or related fields.
Pharmatechnology

Career Opportunities
The Pharmatechnology specialisation covers early pharmaceutical profiling to formulation development and manufacturing. Graduates are optimally prepared for the pharmaceutical/biomedical industry or related sectors such as nutraceuticals. Apart from players such as Roche or Novartis, there are opportunities in smaller firms or in contract research/manufacturing. Graduates are also attractive to companies in pharmaceutical engineering, excipients, production machines and consultancy, as well as being qualified for regulatory agencies or academia. Growth in the pharmaceutical and biomedical sectors is expected to continue due to the rising health challenges of chronic and infectious diseases, where Pharmatechnology will play a critical role in the value chain of producing efficacious and safe drugs that meet the highest quality standards.

Entry Requirements
The MSc in Life Sciences – Pharmatechnology is especially suited for students with a BSc degree in Pharmatechnology, Pharmacy, Chemical Engineering, Biotechnology or related fields.
Study in the heart of Europe

Europe’s largest life sciences centre: Basel
The FHNW School of Life Sciences is part of Europe’s largest life sciences centre, at the crossroads of the pharmaceutical and chemical industries and medical, environmental and biotechnology. We are committed to developing new preventive and therapeutic products and services, improving people’s quality of life and promoting a sustainable attitude to the environment. We use our industry network to give our students a comprehensive insight into real-life applications. Students are directly involved in current projects throughout their studies and work in partnership with industry on the burning issues of tomorrow.