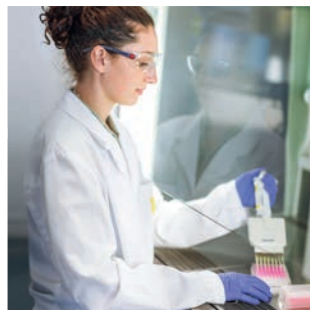


MSc Life Sciences

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

part-time
studies
possible

- ✓ **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
 - Biotechnology
 - Chemical Engineering
 - Data Science
 - Environmental Technologies
 - Organic and Supramolecular Chemistry
 - Pharmatechnology
- ✓ **Three semesters full-time study, 90 ECTS credits**
- ✓ **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 750 per semester (Swiss, Liechtenstein), CHF 1 000 (EU), otherwise CHF 5 000**

The FHNW School of Life Sciences

Introduction

The FHNW School of Life Sciences is a leading Swiss institution for education and application-oriented research in Life Sciences. With a network of industry and research partners, the FHNW School of Life Sciences 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.



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.



Data Science



Career Opportunities

The curriculum is designed to prepare you for a career in industrial, academic, and clinical environments. The programme recognizes the growing global significance of data science in the analysis and interpretation of complex biological, chemical, and pharmacological data. With the advance of high-throughput technologies and the vast quantities of data they produce, data science has become indispensable to research and development of new drugs, molecular diagnostics, and chemical analytics.

Entry Requirements

The MSc in Life Sciences – Data Science is especially suited for students with a BSc degree in natural science or life science and a strong inclination and interest for mathematics and informatics.

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

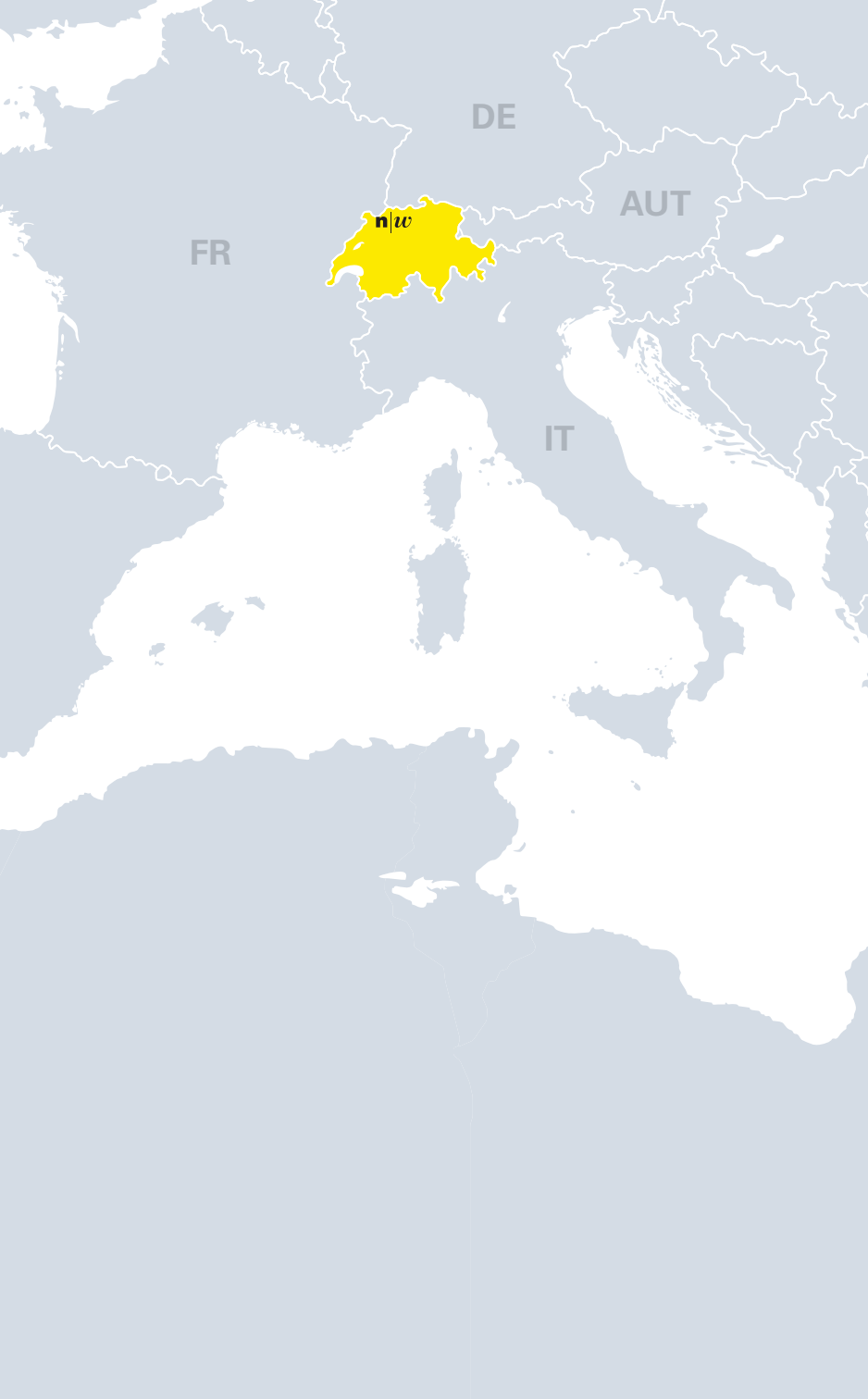


Career Opportunities

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.

**FHNW University of Applied Sciences and Arts
Northwestern Switzerland
School of Life Sciences**

Hofackerstrasse 30

4132 Muttenz / Switzerland

info.lifesciences@fhnw.ch

www.fhnw.ch/master-lifesciences

