For people who are attending online

Please…

switch off your microphone

switch off your camera

For your questions, use the chat on the right:
Cooperation Master of Science in Life Sciences MSLS

Cooperation MSLS of BFH, FHNW, HES-SO, and ZHAW

Swiss Cooperation
30% of studies
Core Competences
(Business & Data)
Cluster-specific Modules
MLS HES-SO: three majors

Applied Biosciences
AB, Sion

Chemical Development & Production
CDP, Fribourg

Viticulture & Enology
VE, Changins
### Overview of the curriculum

#### Structure of the Master Study Programme

<table>
<thead>
<tr>
<th>Core Competences</th>
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<tbody>
<tr>
<td><strong>Business</strong></td>
<td><strong>Data</strong></td>
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<tr>
<td>B-Modules</td>
<td>D-Modules</td>
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<td>4x 3 ECTS</td>
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Choice: minimum 5 CC modules, minimum 3 CS modules – **30 ECTS in total**

**Specialization modules (20 ECTS)**

- **S-Modules by AB/CDP/NRM/VE**
  - 5x 4 ECTS

**Master Thesis (40 ECTS)**

- **X-Modules**
  - 4 ECTS / 6 ECTS / 30 ECTS

**Project Manager**

- Achieve the state of the art
- Defend an idea
- Analyze the feasibility
- Schedule work-packages
- Use the resources available
- Write a scientific report
- Present results
Prepare for the challenges originating from the job market (big data, Digitalization, Industry 4.0) and addressing the need to understand the concepts of entrepreneurship, innovation and business

Offered via the cooperation MSLS

Distant learning and local teaching in presence (Changins, Fribourg and Sion)

Choice around 5 modules out of 8 → individual programme, with more or less Business or Data modules.

### Business & Data Modules (B & D)

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Cluster-specific modules

- Cluster-specific modules offer specialized, in-depth courses
  Presence/online/mix

- Each specialization is partner of a cluster:
  - AB ➔ BioPharma BP
  - CDP ➔ Chemistry C
  - VE ➔ Food/Environment F + E

- Additional offers from other clusters (3-5 modules)

- Choice of around 5 modules out of 10 modules ➔ individual
  programme with more or less modules in your cluster or in
  another field.
MAJORS
## Majors: specialization modules and Master thesis

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- **Master Thesis (40 ECTS)**
  - X-Modules
    - 4 ECTS / 6 ECTS / 30 ECTS
Applied Biosciences

5 specialization modules

- Sustainable Biotechnology
- Genomics + Genome analysis
- In vitro Diagnostics
- Pharmaceutical sciences
- Quality and Regulatory affairs

Local Information

- urban.frey@hes-so.ch
AB – Example of a Master thesis

Master of Science HES-SO in Life Sciences

Diagnostics: Paper-based diagnostic device “SafeTest”

Stornetta Tom
Applied Biosciences
HES-SO Valais
Advisor: Pr. Dr. Jean-Manuel Segura

µPAD for the simultaneous detection of 6 biomarkers

Device allowing the uniform deposition of the reagents on the sample
Chemical Development & Production

5 specialization modules

- Process Chemistry and Development
- Process Design and Optimization
- Chemical Engineering & Process Intensification
- Safety, Production and Quality
- Analytics and Characterization

Local Information

- michal.dabros@hefr.ch
- olivier.nicolet@hefr.ch
CDP – Example of a Master thesis

Master of Science HES-SO in Life Sciences

Development and optimisation of a fed-batch culture of a S. Cerevisiae ale strain for the brewing industry

Lucien Blanchard
CHEMICAL DEVELOPMENT & PRODUCTION
HEIA-FR

Advisor: Michal Dabros & Brian Freeland // In collaboration with Dublin City University
Viticulture & Enology

Master with double diploma

- Master of Sciences in Life Sciences (90 ECTS)
- EuroMaster Vinifera (120 ECTS)
  - Germany, Italy, Spain, Portugal

2 years

First year: Changins, Switzerland
Second year: Vinifera partner universities
Viticulture & Enology

5 specialization modules

- Grapevine Environment - Sustainable Viticulture
- Genetic Resources and Grapevine Production
- Winery Design
- Fermented Beverages Technology, Chemistry and Microbiology
- Wine Economics and Management

Local Information

- melanie.weikert@changins.ch
- liming.zeng@changins.ch
Assessing the Effectiveness of UV-C Treatment in Preventing Downy Mildew (*Plasmopara viticola*) on Grapevines

Graduate Nicholas Wolff

Irradiating a potted grapevine with UV-C light in the greenhouse at Hochschule Geisenheim University.

Using a Force-A Multiplex to measure the anthocyanin index in a grape leaf.
ORGANISATION
Full Time vs. Part Time Studies 90 ECTS (AB, CDP)

1st year
- Core competences Data / Business
- Cluster-specific
- Specialization modules
- Master Thesis Pre-project

2nd year
- Master Thesis

3rd year
- Core competences Data / Business
- Cluster-specific
- Specialization modules
- Master Thesis Pre-project
- Master Thesis
Full Time (VE)

1st year
- Core competences
  - Data / Business
- Cluster-specific
- Specialization modules
- Master Thesis Pre-project

2nd year
- Vinifera
- Master Thesis
Admissions

Admission is decided on the basis of the candidate’s portfolio. Requirements are as follows:

- UAS Bachelor’s degree in a related field of the chosen major
- Bachelor’s degree in a related field from a University or Institute of Technology, subject to completing a practical internship
- Other applications are judged on the academic curriculum and the practical experience
- Candidates must hold a B2 level in English
More information

Study plans, module descriptions, etc., and admissions: [www.hes-so.ch/mls](www.hes-so.ch/mls)

Admissions: open from 01.12.2022 to **30.04.2023**

Questions?

- [master.mls@hes-so.ch](mailto:master.mls@hes-so.ch) (general questions and admissions)
- [urban.frey@hes-so.ch](mailto:urban.frey@hes-so.ch) (Major Applied Biosciences)
- [olivier.nicolet@hefr.ch](mailto:olivier.nicolet@hefr.ch) (Major Chemical Development and Production )
- [liming.zeng@changins.ch](mailto:liming.zeng@changins.ch) (Major Viticulture and Enology)
Hes·so