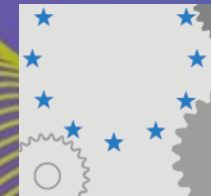




25.11.2025

# Presentation of the Master in Life Sciences



**EUR-ACE<sup>®</sup>**



# For people who are attending online

Please...

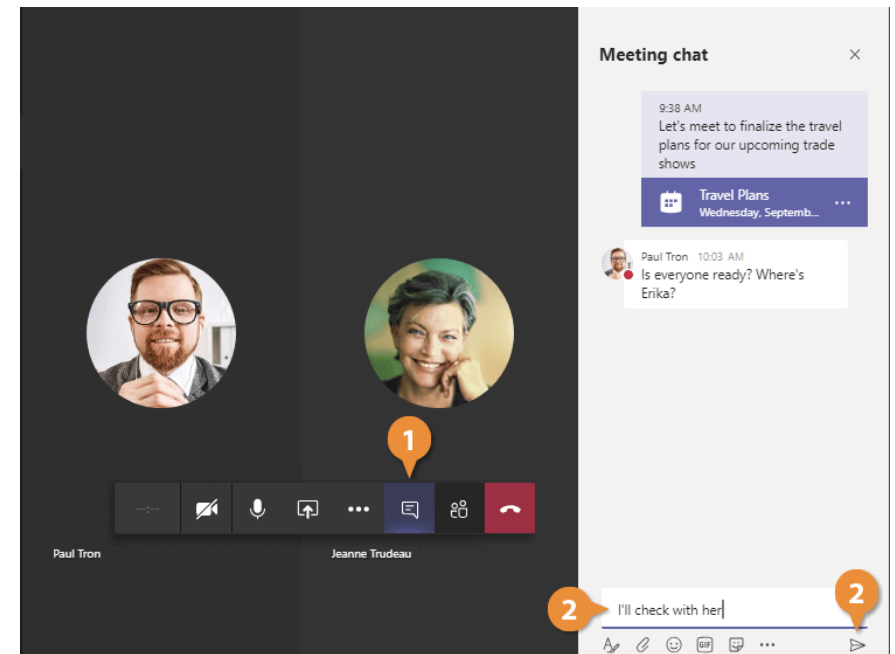
Mute your microphone



switch off your camera



For your questions, use the chat on the right:

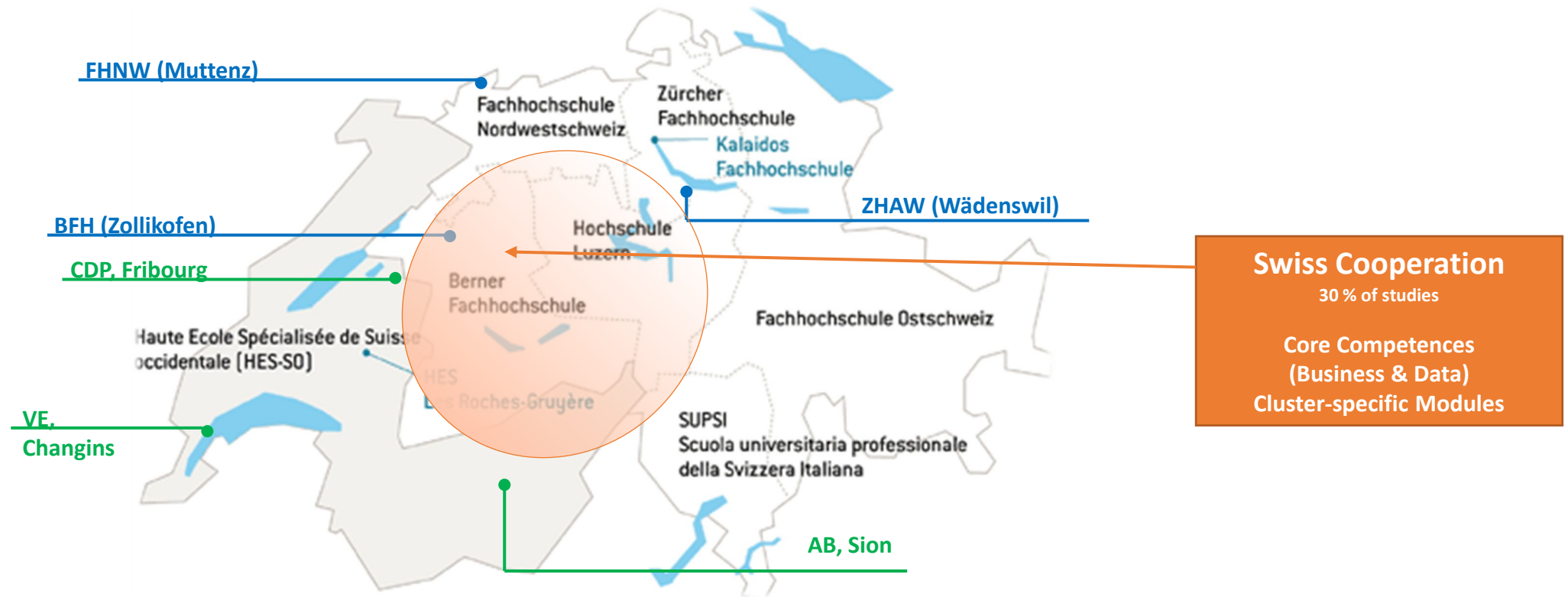


# MASTER MLS



# Cooperation Master of Science in Life Sciences MSLS

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



# MLS HES-SO: three majors

## Applied Biosciences

AB, Sion



## Chemical Development & Production

CDP, Fribourg



## Viticulture & Enology

VE, Changins



# Structure of the Master Study Programme

## Overview of the curriculum

<b>Core Competences Business</b> B-Modules 4 x 3 ECTS	<b>Core Competences Data</b> D-Modules 4 x 3 ECTS	<b>Cluster-specific Modules</b> CS-Modules 6 x 3 ECTS
Choice: minimum 4 CC modules, minimum 3 CS modules <b>30 ECTS in total</b>		

<b>Specialization modules (20 ECTS)</b> 5 x 4 ECTS
<b>Projects (10 ECTS)</b> 4 ECTS / 6 ECTS
<b>Master Thesis (30 ECTS)</b>



## 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

# Business & Data Modules (B & D)

Core Competences Business	Core Competences Data	Cluster-specific Modules
B-Modules 4x 3 ECTS	D-Modules 4x 3 ECTS	CS-Modules 6x 3 ECTS
Choice: minimum 4 CC modules, minimum 3 CS modules – <b>30 ECTS in total</b>		

- 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)



# Cluster-specific modules

Core Competences Business	Core Competences Data	Cluster-specific Modules
B-Modules 4x 3 ECTS	D-Modules 4x 3 ECTS	CS-Modules 6x 3 ECTS
Choice: minimum 4 CC modules, minimum 3 CS modules – <b>30 ECTS in total</b>		

- Cluster-specific modules offer specialized, in-deep courses  
Presence/online/mix
- Each specialization is partner of a cluster:
  - *AB* → *BioPharma BP*
  - *CDP* → *Chemistry C*
  - *VE* → *Food/ Environment F + E*
- Each Cluster offers 6 cluster-specific modules
- Additional offers from other clusters (3-5 modules)



The background is a vibrant red color. Overlaid on this is a complex, semi-transparent molecular structure consisting of numerous small, textured spheres connected by thin, dark lines. The spheres vary in size and are scattered across the frame. In the top-right and bottom-left corners, there are white, L-shaped brackets or corner markers.

# MAJORS

# Majors: specialization modules and Master thesis

<b>Core Competences Business</b>	<b>Core Competences Data</b>	<b>Cluster-specific Modules</b>
B-Modules 4x 3 ECTS	D-Modules 4x 3 ECTS	CS-Modules 6x 3 ECTS
Choice: minimum 4 CC modules, minimum 3 CS modules – <b>30 ECTS in total</b>		

**Specialization modules (20 ECTS)**  
5x 4 ECTS

**Projects (10 ECTS)**  
4 ECTS / 6 ECTS /

**Master Thesis (30 ECTS)**

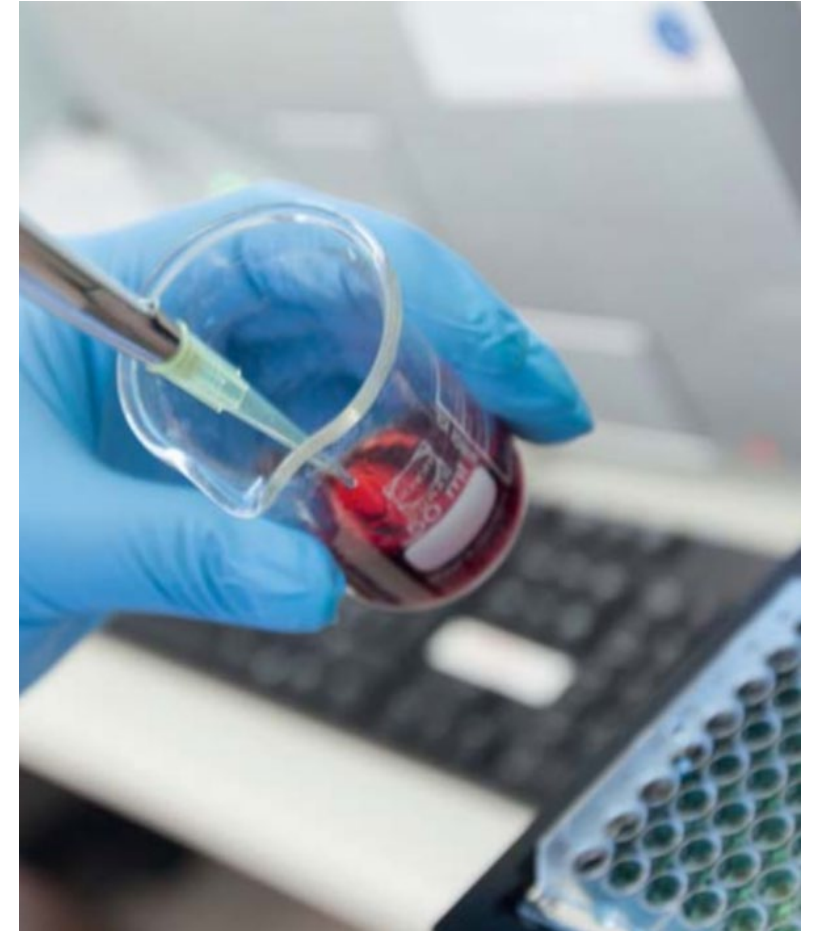
# Applied Biosciences

## 5 specialization modules

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

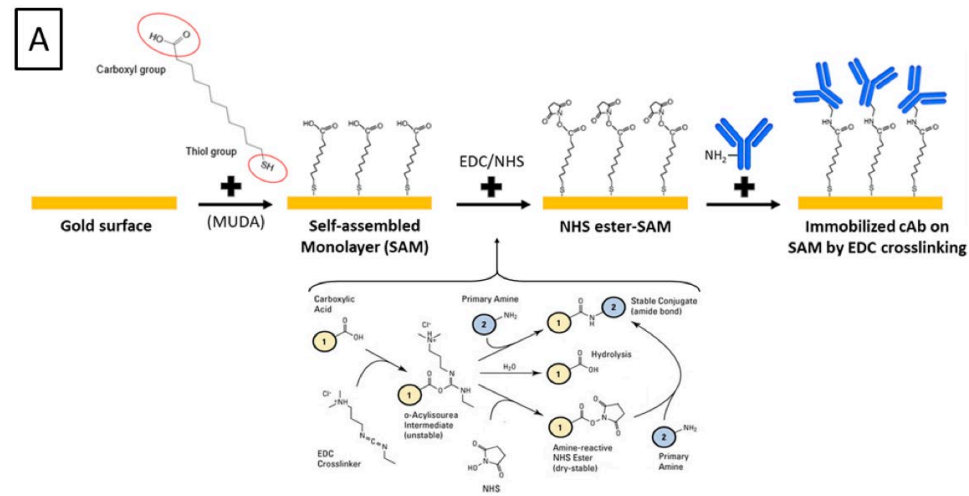
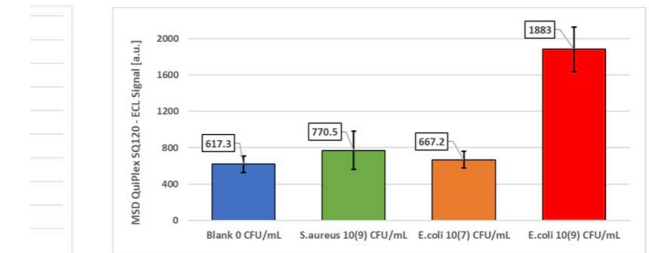
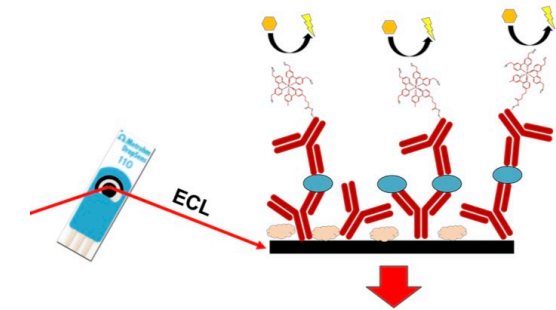
## Local Information

- [andreas.peer@hevs.ch](mailto:andreas.peer@hevs.ch)



# AB – Example of a Master thesis

- **Master Thesis in the field of in vitro Diagnostics**
- **Goal:** to develop a rapid diagnostic test for the detection of bacterial infections
- A lateral flow assay has been developed by immobilization of an antibody specific against the bacterial strain of interest
- A second antibody binds to a different part of the bacterial strain and carries a group inducing a signal (like luminescence)



# 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](mailto:michal.dabros@hefr.ch)
- [olivier.nicolet@hefr.ch](mailto:olivier.nicolet@hefr.ch)



# CDP – Example of a Master thesis

Master of Science HES-SO in Life Sciences

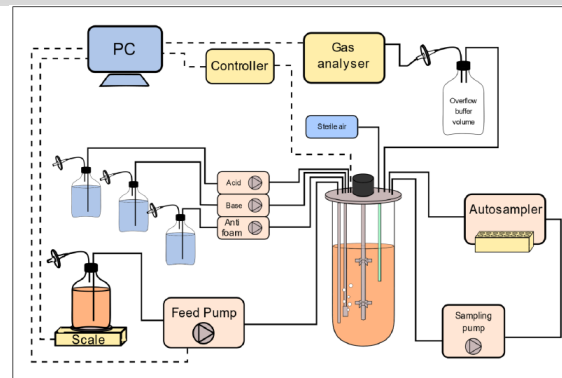
## Development and optimisation of a fed-batch culture of a *S. Cerevisiae* ale strain for the brewing industry

Lucien Blanchard

CHEMICAL DEVELOPMENT & PRODUCTION

*HEIA-FR*

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



# Viticulture & Enology

## Master with double diploma 120 ECTS (2 years)

➤ Master of Sciences in Life Sciences (first year)

❖ Changins

AND

➤ EuroMaster Vinifera (second year)

❖ Germany, Italy, Spain, Portugal



# 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

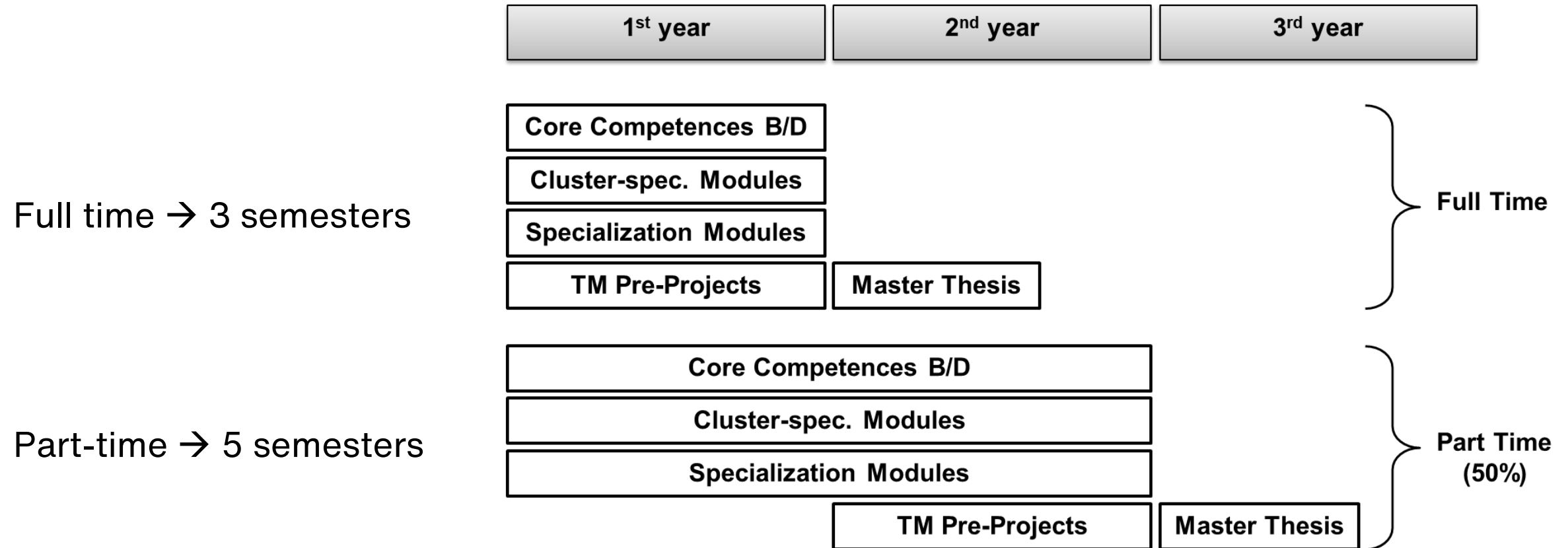
- [melanie.weikert@changins.ch](mailto:melanie.weikert@changins.ch)
- [liming.zeng@changins.ch](mailto:liming.zeng@changins.ch)



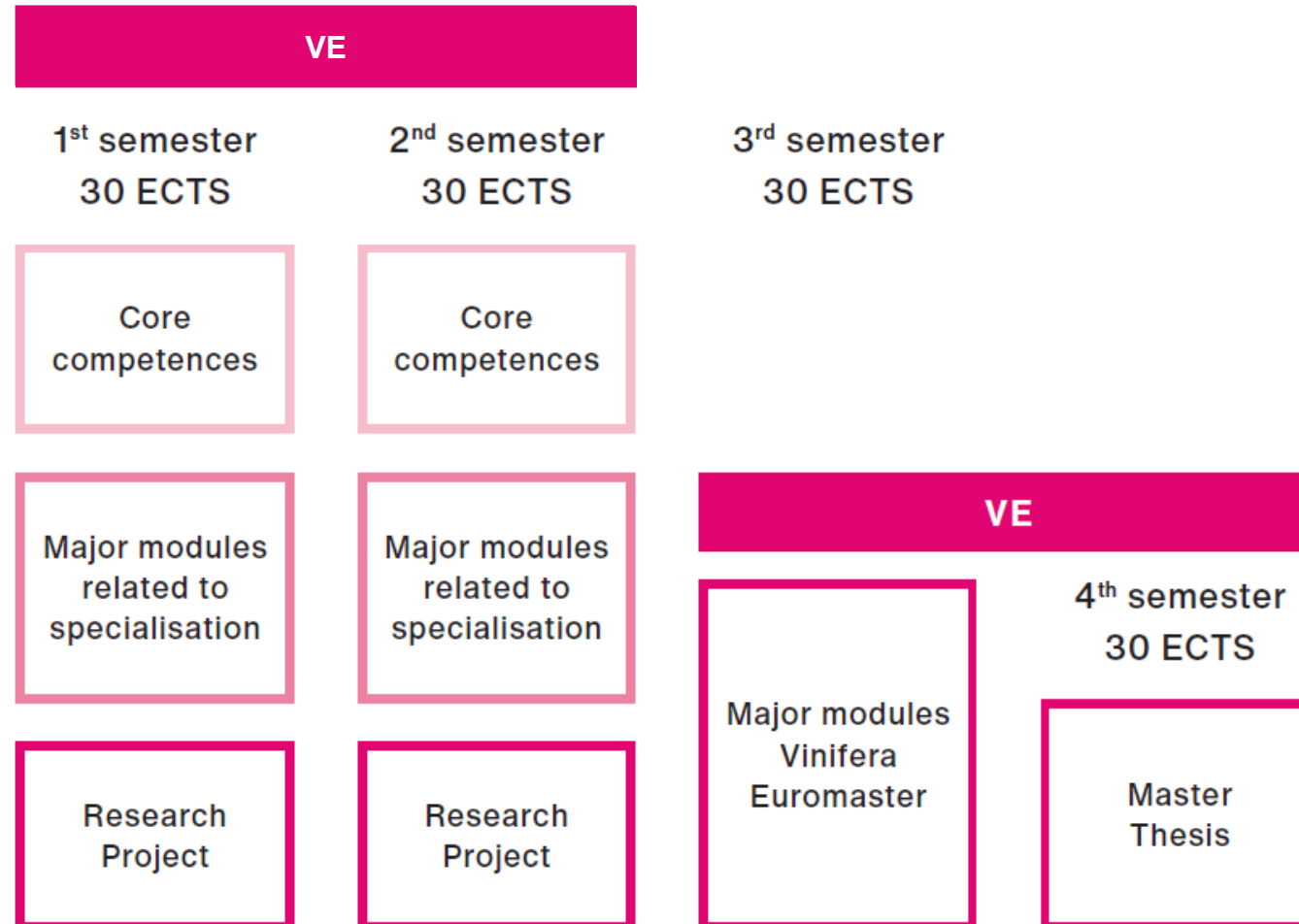


# ORGANISATION

# Full Time vs. Part Time Studies 90 ECTS (Applied Biosciences AB, Chemical Development & Production CDP)



# Full Time (Viticulture & Enology VE)



# 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
- People with a long industrial experience can ask a validation of this experience (email [mls@hes-so.ch](mailto:mls@hes-so.ch) for more information)

# More information

Study plans, module descriptions, etc., and admissions: **hes-so.ch/mls**

Admissions: open from 01.12.2025 to...

- 15.02.2026 (for students who need a visa)
- **30.04.2026**

Questions?

- [mls@hes-so.ch](mailto:mls@hes-so.ch) (general questions and admissions)
- [urban.frey@hes-so.ch](mailto:urban.frey@hes-so.ch)
- [andreas.peer@hevs.ch](mailto:andreas.peer@hevs.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)