

CONNECT WITH YOUR FUTURE

30.11.23

**Online presentation of the
Master in Life Sciences**





For people who are attending online

Please...

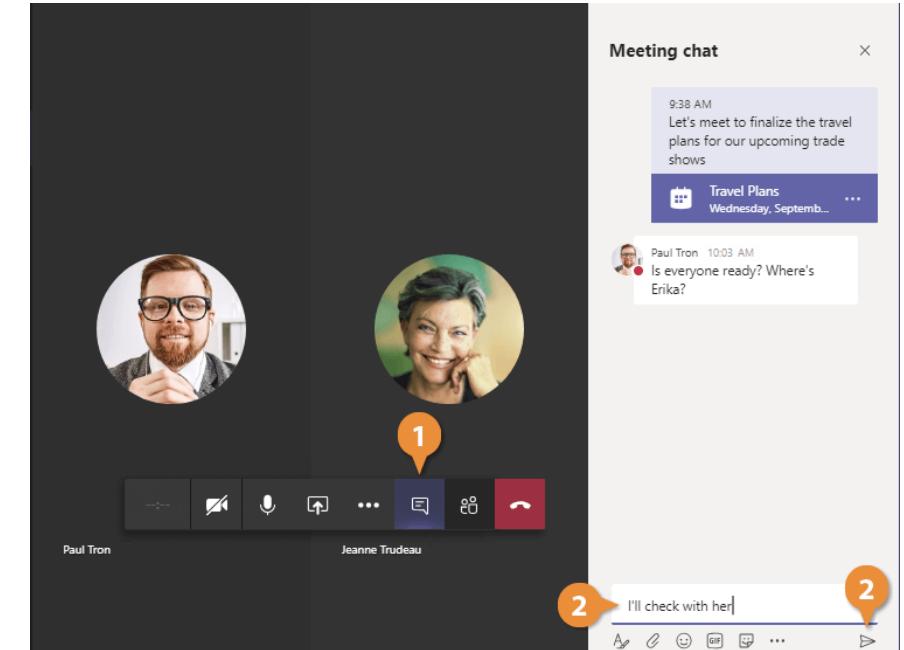
switch off your microphone



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For your questions, use the chat on the right:



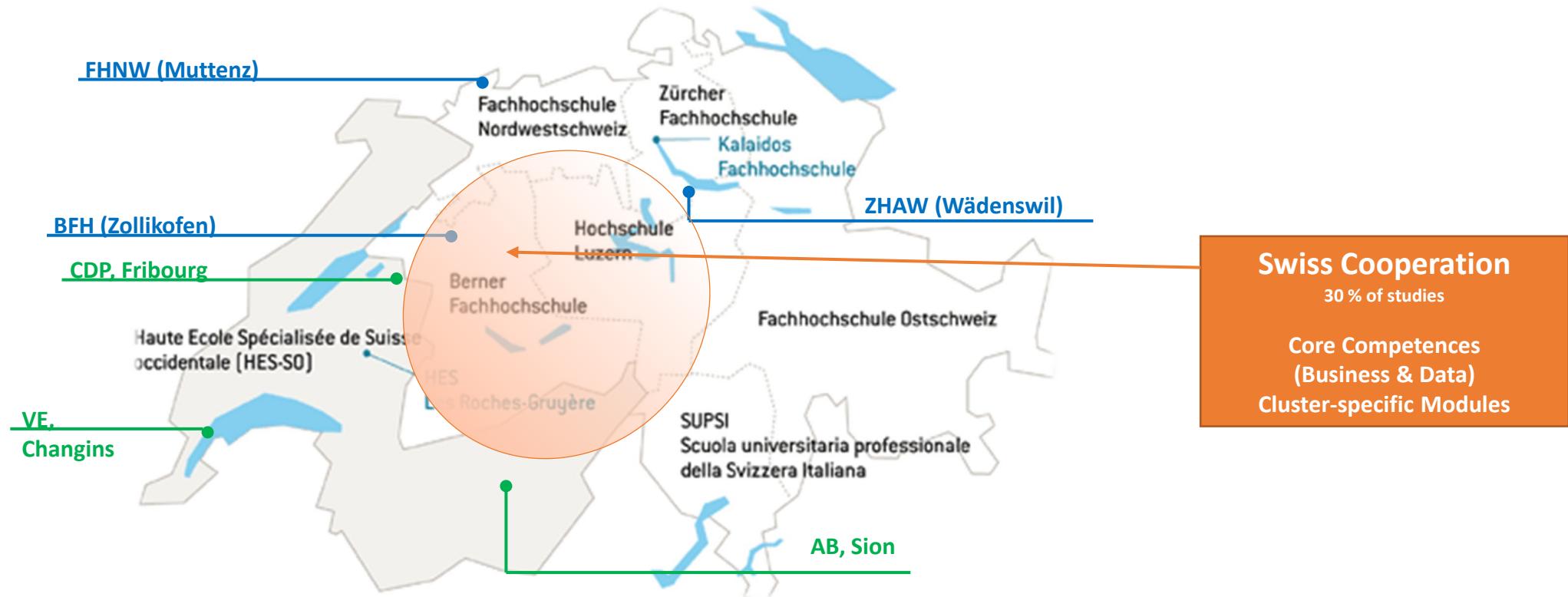


MASTER MLS



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

Core Competences Business B-Modules 4x 3 ECTS	Core Competences Data D-Modules 4x 3 ECTS	Cluster-specific Modules CS-Modules 5-6x 3 ECTS
Choice: minimum 4 CC modules, minimum 3 CS modules – 30 ECTS in total		

Specialization modules (20 ECTS)
S-Modules by AB/CDP/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



Business & Data Modules (B & D)

Core Competences	Core Competences	Cluster-specific Modules
Business B-Modules 4x 3 ECTS	Data D-Modules 4x 3 ECTS	CS-Modules 5-6x 3 ECTS
Choice: minimum 4 CC modules, minimum 3 CS modules – 30 ECTS in total		

- 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)

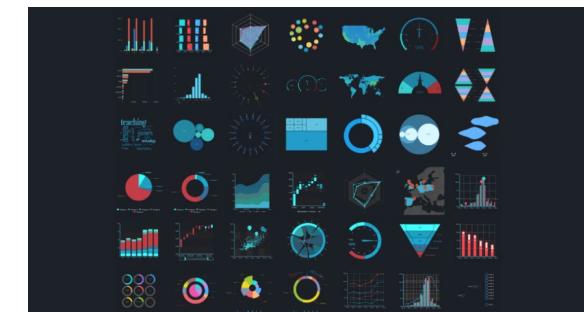




Cluster-specific modules

Core Competences	Core Competences	Cluster-specific Modules
Business B-Modules 4x 3 ECTS	Data D-Modules 4x 3 ECTS	CS-Modules 5-6x 3 ECTS
Choice: minimum 4 CC modules, minimum 3 CS modules – 30 ECTS in total		

- 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*
- Each Cluster offers 5-6 cluster-specific modules
- Additional offers from other clusters (3-5 modules)



A red-tinted background featuring a complex network of molecular structures, including spheres and connecting lines, resembling a microscopic view of atoms or viruses.

MAJORS





Majors: specialization modules and Master thesis

Core Competences Business B-Modules 4x 3 ECTS	Core Competences Data D-Modules 4x 3 ECTS	Cluster-specific Modules CS-Modules 5-6x 3 ECTS
Choice: minimum 5 CC modules, minimum 3 CS modules – 30 ECTS in total		

Specialization modules (20 ECTS)

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

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

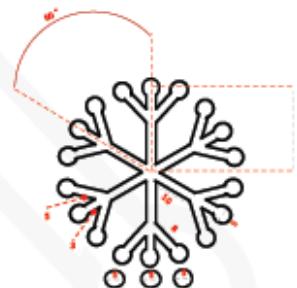
Diagnostics: Paper-based diagnostic device “SafeTest”



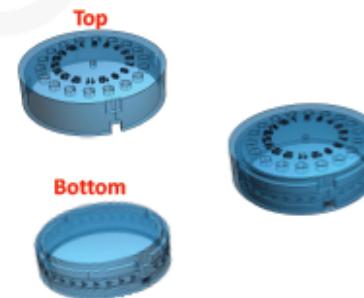
Stornetta Tom

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

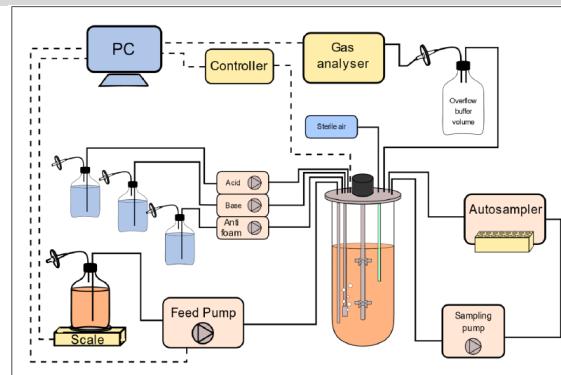
Master of Science HES-SO in Life Sciences

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 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
- liming.zeng@changins.ch



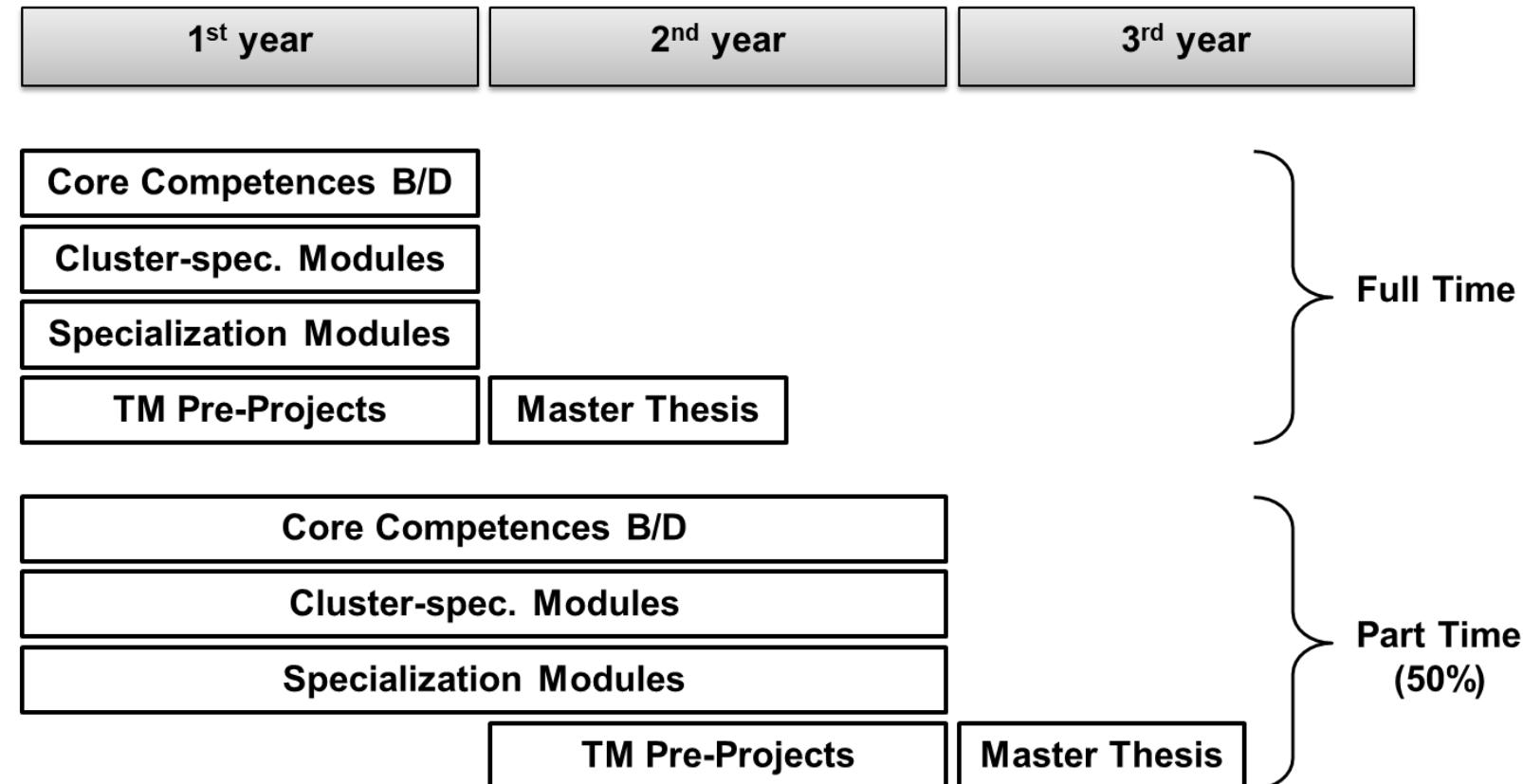
ORGANISATION





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

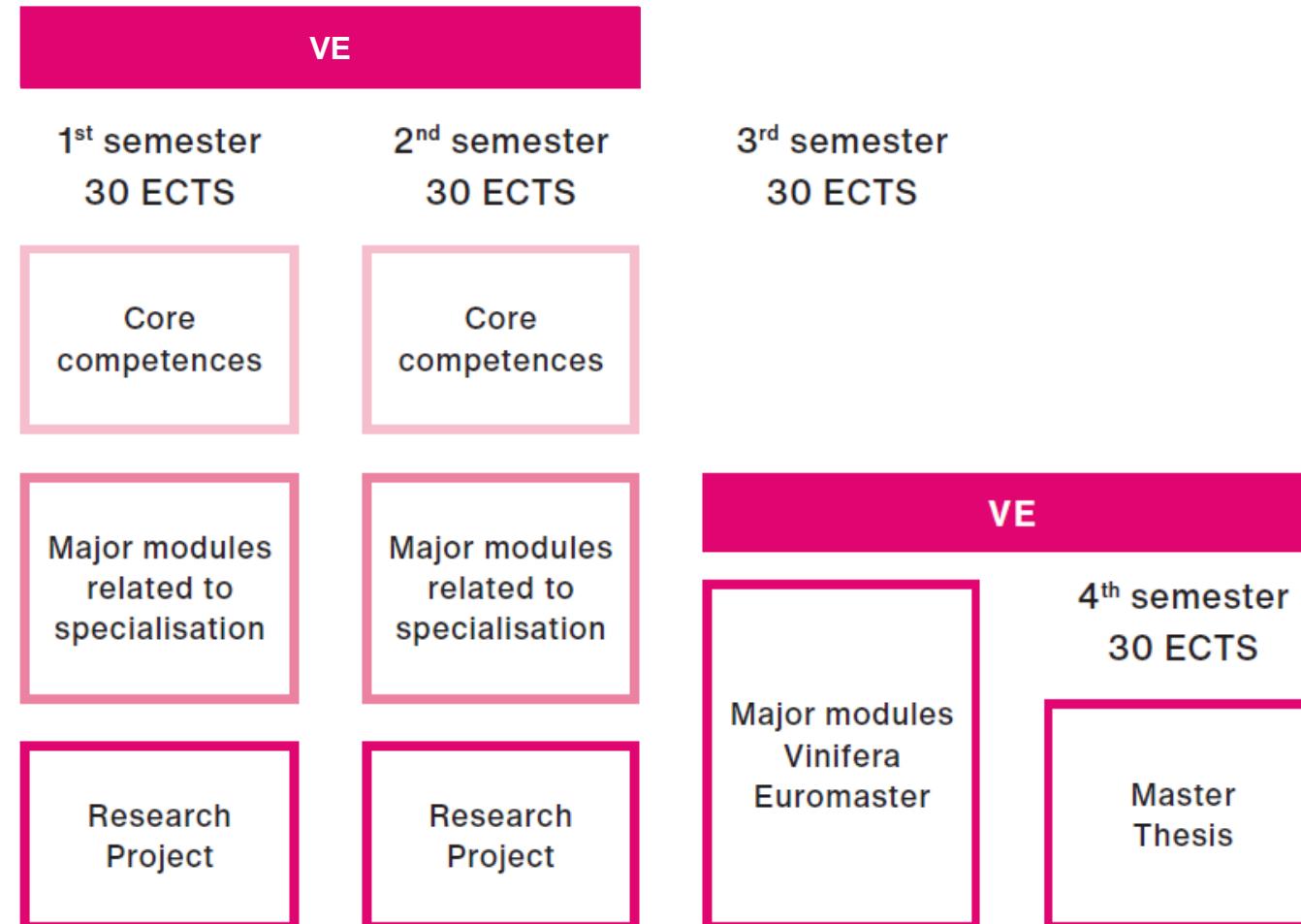
Full time → 3 semesters



Part-time → 5 semesters



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 for more information)



More information

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

Admissions: open from 01.12.2023 to...

- 15.02.2024 (for students who need a visa)
- **30.04.2024**

Questions?

- **mls@hes-so.ch (general questions and admissions)**
- **urban.frey@hes-so.ch (Major Applied Biosciences)**
- **olivier.nicolet@hefr.ch (Major Chemical Development and Production)**
- **liming.zeng@changins.ch (Major Viticulture and Enology)**