



# Swiss MOOC Service

**P-5 Outcomes Conference  
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# Swiss MOOC Service



2001: MIT launches OpenCourseWare

2006: Open course platform Wikiversity

2011: MIT launches MITx as MOOC platform in reaction to Stanford spinoffs Coursera and Udacity

**2012:** MIT & Harvard launch edX with open-source Open edX

2016: EPFL installs local courseware.epfl.ch

**2018: swissuniversities P5 program** funds Swiss MOOC Service, a national MOOC platform for Swiss universities.

**end of 2020:** grant funding officially ends

**beginning of 2021:** Swiss MOOC Service becomes an association dedicated to sustain the platform

2021: edX is acquired by commercial company 2U - no immediate consequences for Swiss MOOC Service Association

# Swiss MOOC Service



**Open** for all public institutions

- Universities, Training Institutes
- Cantons, Schools, NGOs
- e.g <https://courseware.epfl.ch>  
or <https://edu-exchange.uzh.ch/>

**Data safety.** Students' data in a safe place

- 100% Swiss hosting
- New Data Protection Law (GDPR) compatible

**An easy start**

- A MOOC-maker community
- Swiss MOOC Service workshops

# **Swiss MOOC Service**



## **Local students.**

- To accompany flipped classrooms
- For free, but often closed

## **Continued education.**

- Pay to get-in or pay to get-out
- Certificates

## **Citizen MOOCs.**

- Open for everybody via SWITCH edu-ID

# Swiss MOOC Service Association

Created April 2021

## Founding Members

- EPFL
- ETH

## Members

- FFHS
- ZHAW
- UNILI
- UZH
- UNIGE
- ...
- Academic CH Institutions of higher education
- Public authorities



Prof. dr Pierre Dillenbourg,  
EPFL  
President



Dr. Patrick Jermann, EPFL  
Treasurer



Dr. Gerd Kortemeyer, ETHZ  
Vice-president



Dr. Thomas Piendl, ETHZ  
Secretary

**EPFL**

**ETH** zürich



Zürcher Hochschule für Angewandte Wissenschaften



# Shared Catalogue

## Use cases

- Continued education
- On-campus courses
- Citizen MOOCs

## Searchable

- Topics
- Language
- Universities

The screenshot displays the 'Shared Catalogue' website. At the top, there is a navigation bar with the 'Ms' logo and links for 'Courses', 'Organizations', 'Persons', 'Programs', 'EN', 'FR', 'Sign up', and 'Login'. The main content is divided into a dark blue sidebar on the left and a white main area on the right.

**Filter courses**

Clear 1 active filter

**New courses**

- First session (12)

**Availability**

- Open for enrollment (12)
- Coming soon (1)
- On-going (11)
- Archived (0)

**Subjects**

- Science (12) +
- Human and social sciences (3) +
- Education and Training (2)
- Law (1)
- Health (1)

**Levels**

**Organizations**

- École polytechnique fédérale de Lausanne (11)
- University of Zurich (1)
- Zurich University of Teacher Education Moocs (0)
- ZHAW Online Courses (0)

**Courses**

Search for courses, organizations, categories

Showing 1 to 12 of 12 courses matching your search

<p><b>Algèbre Linéaire (Partie 2)</b> École polytechnique fédérale de Lausanne Forever open <b>Enroll now</b></p>	<p><b>Introduction à l'astrophysique</b> École polytechnique fédérale de Lausanne Forever open <b>Enroll now</b></p>	<p><b>Electronique II</b> École polytechnique fédérale de Lausanne Forever open <b>Enroll now</b></p>	<p><b>Algèbre Linéaire (Partie 1)</b> École polytechnique fédérale de Lausanne Forever open <b>Enroll now</b></p>
<p><b>Cellular mechanisms of brain function</b> École polytechnique fédérale de Lausanne Forever open <b>Enroll now</b></p>	<p><b>Electrotechnique II</b> École polytechnique fédérale de Lausanne Forever open <b>Enroll now</b></p>	<p><b>Electronique I</b> École polytechnique fédérale de Lausanne Forever open <b>Enroll now</b></p>	<p><b>Algèbre Linéaire (Partie 3)</b> École polytechnique fédérale de Lausanne Forever open <b>Enroll now</b></p>
<p><b>Electrotechnique I</b> École polytechnique fédérale de Lausanne</p>	<p><b>Fundamentals of Biomedical Imaging: Ultrasounds, X-ray, positron emission tomography (PET) and</b></p>	<p><b>Cours préparatoire: Fonctions Trigonométriques, Logarithmiques et Exponentielles</b></p>	<p><b>Praktikum Biostatistik im 1. Studienjahr Bachelor Medizin</b> University of Zurich</p>

# A MOOC example

## Components

- Video Lectures
- Resources
- Quizzes
- Peer Assessments
- Automated Grading
- LTI - H5P
- LTI - Jupyter Notebooks
- Discussion Forum

## Design

- Learning Objectives
- Projects
- Guidance

## 2.1 La résolution des exercices



Start of transcript. Skip to the end.

La résolution des exercices est une activité fondamentale pour les étudiants en science et en ingénierie.

Notre recherche, les fait faire par exemple montre que plus de la moitié des activités qui sont donné à nos étudiants, montre que plus de la moitié des activités qui

sont donné à nos étudiants, sont des résolutions d'exercices sur papier.

Donc, quelle est la meilleure méthode pour apprendre à résoudre ce type d'exercice ?

Devrez-vous simplement faire beaucoup

### Video

[Download video file](#)

### Transcripts

[Download SubRip \(.srt\) file](#)

[Download Text \(.txt\) file](#)

STAFF DEBUG INFO

### Quiz

0 points possible (ungraded)

Qu'a découvert John Hattie lorsqu'il a passé en revue les différentes études qui existent sur l'apprentissage de la résolution des problèmes ?

Les gens qui apprennent à utiliser des méthodes de résolution de problèmes générales réussissent mieux les exercices que ceux qui n'utilisent pas de telles méthodes.

Utiliser une approche essai-erreur lorsque l'on fait les exercices permet d'apprendre à résoudre les problèmes.

# Compatible

## Open edX

- Open source
- Open course format

## Login

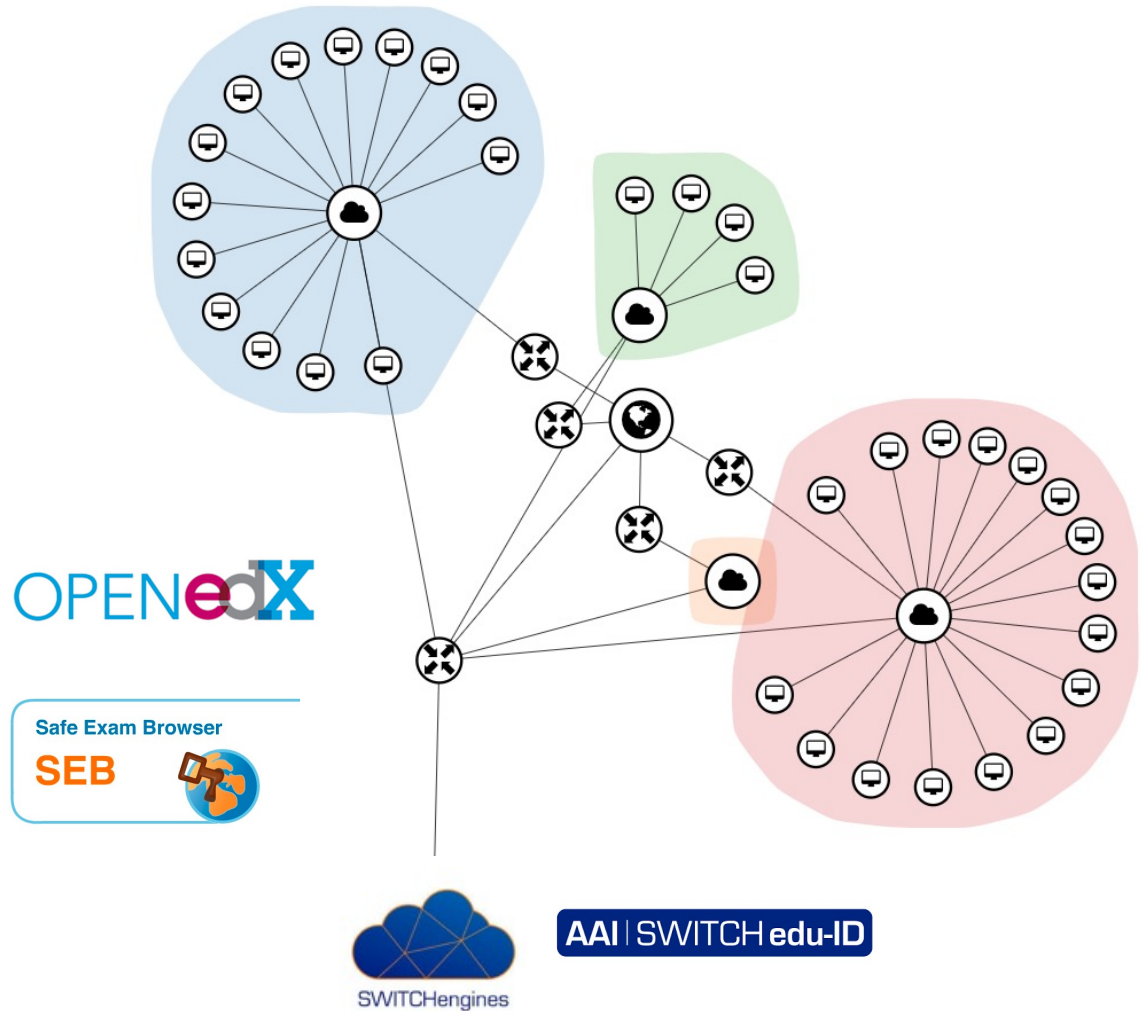
- AAI university federation
- SWITCH edu-ID

## Videos

- SWITCH tube
- Youtube

## Exams and activities

- Safe Exam Browser
- LTI 1.1 integration





# Safe data



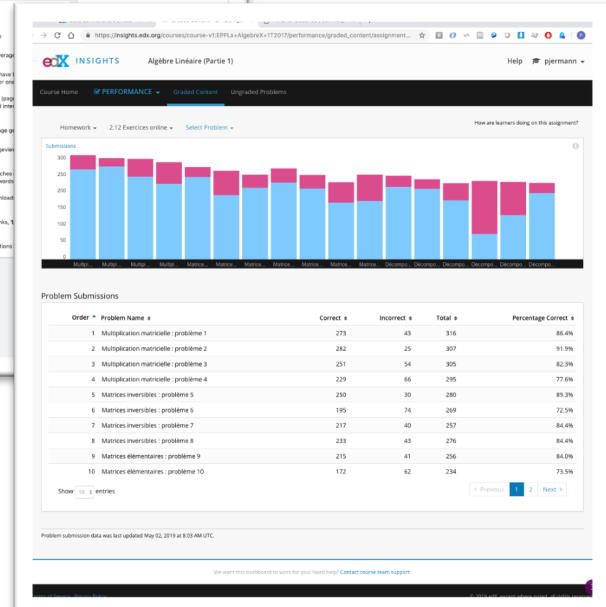
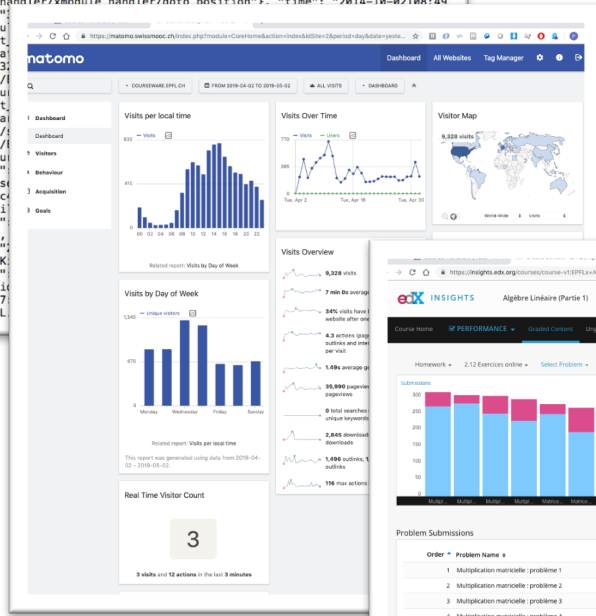
## Hosting

- 100% on Swiss infrastructure
- SWITCHengines

## Data

- Matomo for web traffic
- Insights for teachers
- Research data encrypted
- GDPR compatible

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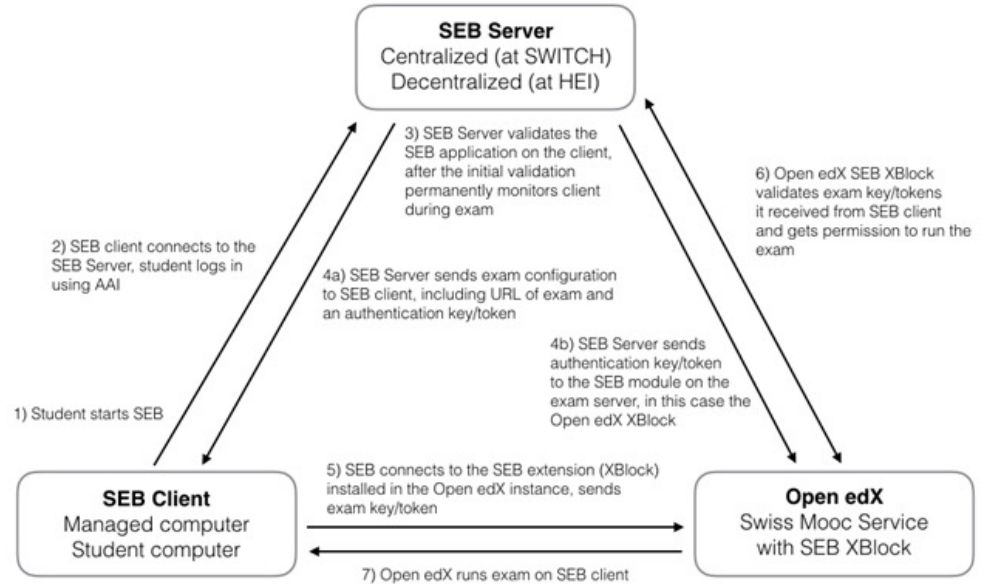
# Online exams

## Safe Exam Browser (SEB)

- application to carry out online exams safely.
- Available for Windows, macOS and iOS.

## The built in SEB-Server web app

- centralizes the configuration of SEB clients
- monitoring of the clients during exams
- enables remote live proctoring



<https://safeexambrowser.org/>

Safe Exam Browser

SEB



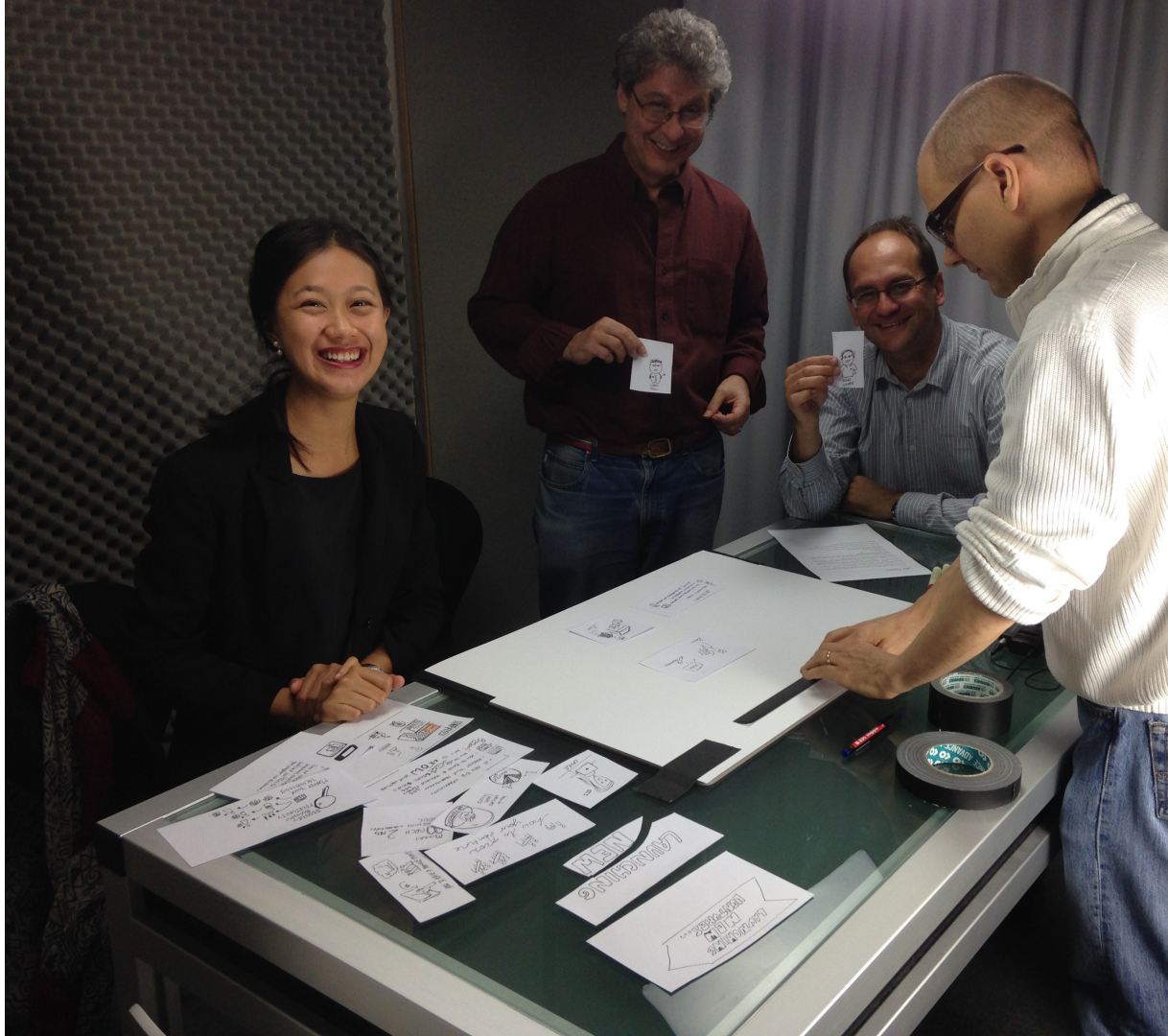
# Easy

## Onboarding Service

- Free trial
- First steps in course creation

## SMS Workshops

- Share best practice
- My course as a MOOC
- Video production tutorials
- Studio setup
- Course design principles
- Learning analytics





# Should I make a MOOC ?



## Needs

- Flexibility and Hybrid learning (in cont'd ed and on campus)
- Upskilling the Swiss population
- Sustainability, Ethics, Security, Data science, etc.
- Niche offerings in German and French

## MOOCs as searchable and reusable OER

- Turn COVID Videos into MOOCs.
- At EPFL we have 22'000 hours of video !!
- Recommending content

# <https://graphsearch.epfl.ch>

🔍 Search



Search for **course name** or **code** to open a course page. You can also search for concepts, people, and publications.

Concept

## Entropy

In statistical mechanics, *entropy* is an extensive property of a thermodynamic system. It is closely related to the number  $\Omega$  of microscopic configurations (known as microstates) that are consistent with the macroscopic quantities that characterize the system (such as its volume, pressure and temperature). Under the assumption that each microstate is equally probable, the entropy  $S$  is the natural logarithm of the number of microstates, multiplied by the Boltzmann constant  $k_B$ . Formally,

### Related concepts

[Thermodynamics](#), [Second law of thermodynamics](#), [Temperature](#), [Gibbs free energy](#), [Enthalpy](#), [Laws of thermodynamics](#), [Ideal gas](#), [First law of thermodynamics](#), ...

Show all

### Courses where this concept is taught

- [PHYS-105: Physique avancée II](#)
- [ME-409: Energy conversion and renewable energy](#)
- [MSE-422: Advanced metallurgy](#)
- [MSE-421: Statistical mechanics](#)
- [PHYS-106\(h\): Physique générale : thermodynamique / Physique générale II](#)

Show all

Course

## PHYS-105: Physique avancée II

Jean-Philippe Ansermet

This course of thermodynamics includes the basic principles, applications to thermostatics and the phenomenology of irreversible processes. An introduction to statistics is used to calculate heat capacities, discuss black body radiation and give a statistical definition of entropy.

### Concepts taught in this course

[Phase transition](#), [Entropy](#), [Thermodynamics](#), [Entropy \(statistical thermodynamics\)](#), [Ideal gas](#), [Chemical reaction](#), [Heat](#), [Special relativity](#), ...

[Show all](#)

### In the program

- [Physics, Propedeutics, 2021-2022](#)

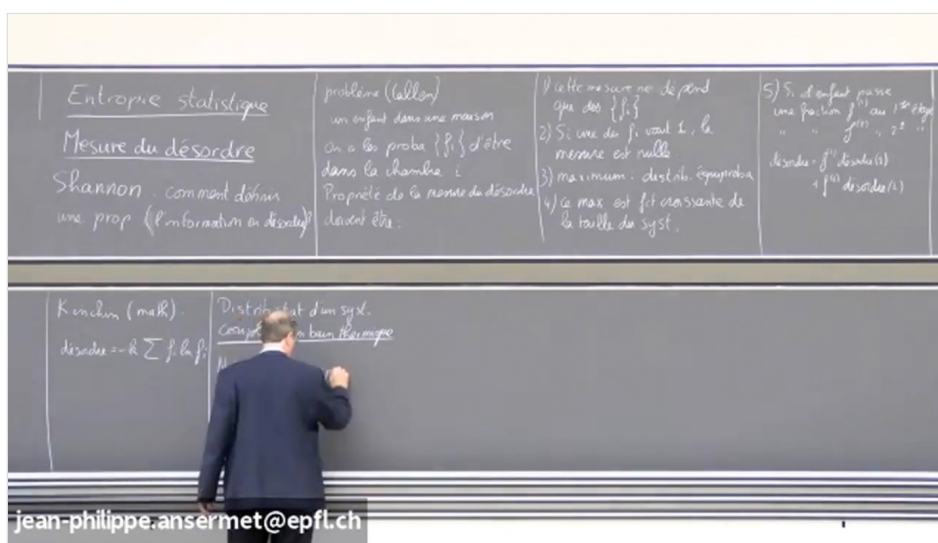
### Courses with shared concepts

- [PHYS-106\(en\): Physique générale : thermodynamique \(anglais\) / Physique générale II \(anglais\)](#)

In the programs [Environmental Sciences and Engineering](#), [Civil Engineering](#), [Chemistry and Chemical Engineering](#), [Microengineering](#), [Electrical and Electronics Engineering](#), [Mechanical Engineering](#), [Materials Science and Engineering](#), [Life Sciences Engineering](#)

- [PHYS-323: Astrophysique II : Bases physiques de l'astrophysique](#)

In the programs [Space technologies minor](#), [Physics](#)



**Course Navigation.** Use the slider below to navigate through the available videos.

⚠ 3 videos are still being processed and will soon be available.

Currently on Semaine 14: Live du vendredi 04.06.21 ▾



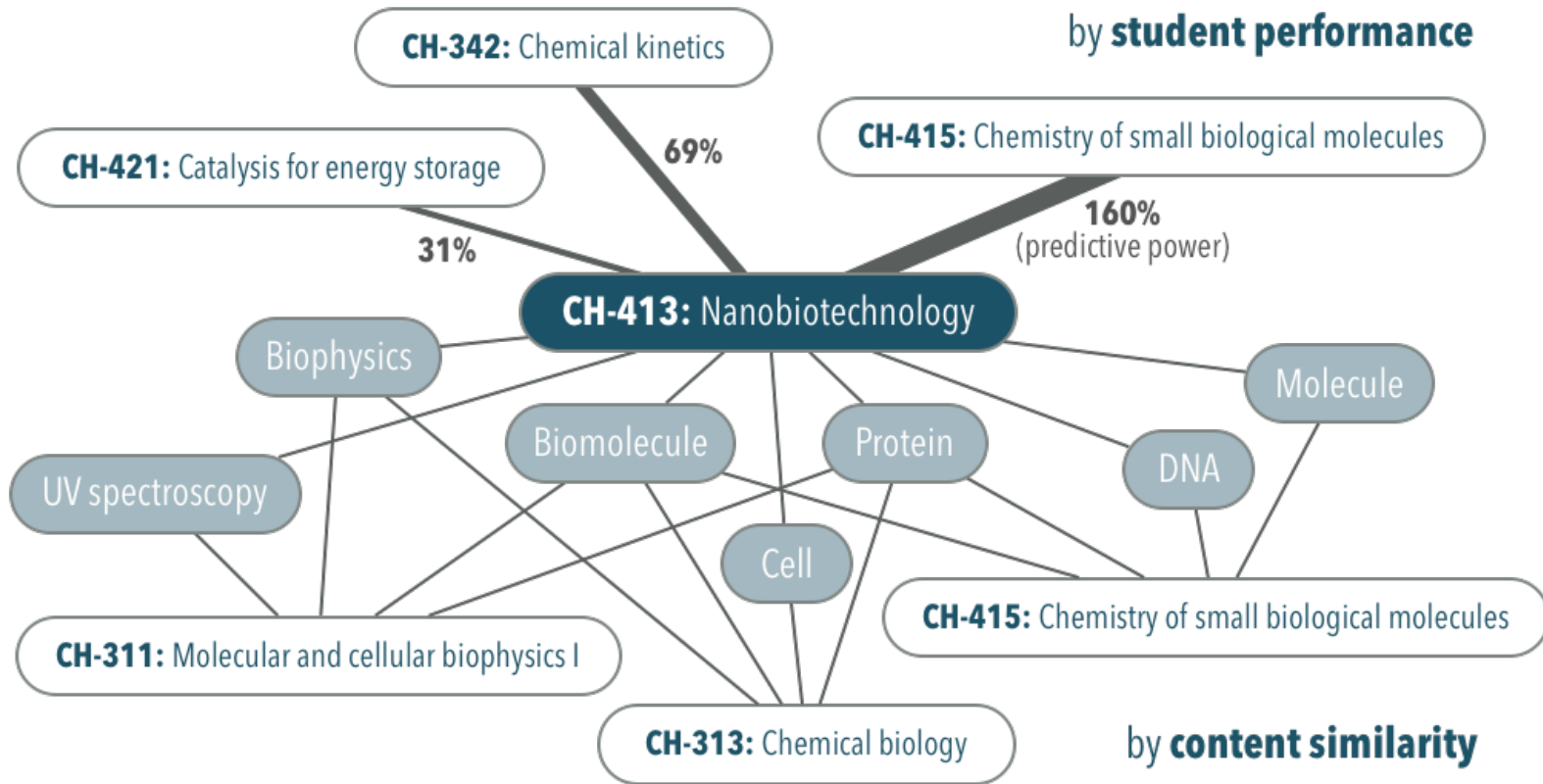
[Play on Switch](#) ↗

**Concept Navigation.** Click on a concept to activate its navigation slider.

Filter



# Towards recommender systems



# I would like to join !

	Dormitory*	Level 1	Level 2	Level 3	Level 4
MOOCs	1	2	4	10	unlimited
Shared catalogue (all courses hosted on SMS)	✓	✓	✓	✓	✓
SMS Workshops	online	✓	✓	✓	✓
Microsite (University logo, email, URL)	N/A	supplement	✓	✓	✓
Insights learner engagement data	✓	✓	✓	✓	✓
Research Data (Clickstreams)	N/A	N/A	N/A	supplement	✓
Membership SMS	N/A	✓	✓	✓	✓
Yearly fee (in CHF)	2500	5000	10'000	25'000	50'000

\*For individual teachers or institutions that only have one course to publish, that course will appear in the catalogue.

Contact: [hello@swissmooc.ch](mailto:hello@swissmooc.ch)

# Team: Swiss MOOC Service



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DevOps



Olivier Scherler  
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Andreas Hefti  
Safe Exam Browser



Annechien Helsdingen  
Management and support

