

CERN-made MOOCs, we can & we should

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CERN IT Lightning Talk

Setting the scene

- Massive Open Online Courses (MOOCs) are multiplying.
- For universities they have become a way to stay competent (even competitive) and far-reaching.
- For the CERN community they can become a way to get access to the “expertise next door” and not only...

Technical facts

Production Costs – the EPFL case:

- 50' sessions (70' video time before editing), 2 times per week for 7 weeks costs them 50K CHF at least.
- 10K CHF to create a studio, 50K CHF for a very good one
- Not listing here professors' fees, assuming there will be no additions to the community members' payroll.

Numbers kindly offered by Professor Pierre Dillenbourg, EPFL Centre for Digital Education

CERN-specific conditions

- Studio facilities already exist in building 510.
- So does rich cross-discipline expertise on site.
- No extra pay needed for our candidate lecturers.
- CERN not being a university, no exams or certifications needed... less stress.
- Still, why make MOOCs @ CERN?
 - ➔ Big return on investment

First for Internal consumption

Technical & scientific content will be more *precise* than reports in meetings, conferences & presentations. A way to instruct, document and obtain comments and advice:

1. Across IT teams: expert *formal* explanation on how our tools are built.
2. Physics – IT applications: mutual information exchange, to understand why applications are as they are and how they can be optimised and/or also used by others.
3. Cross-experiment method sharing, e.g data access, for mutual help and time saving.

Beneficial for the community

Make these MOOCs available to other domains, by registering with <https://www.coursera.org> &/or <https://edx.org/> for:

1. The whole of CERN, for courses which internal Training takes time and resources to organise.
2. The rest of High Energy Physics world.
3. Other fundamental research disciplines.
4. Collaborations with industry, current & future.
5. CERN outreach activities, schools, universities, web communities...

“How-To” Proposal

- Use the existing studio facilities at CERN.
- Experiment with each course’s duration, to maintain attendees’ attention.
- ***Start small***: Make a few courses about IT applications used by the community, e.g. “How to set-up a Grid site” &/or “How to join LHC @ home” &/or put online some of the existing IT courses, e.g. puppet, security ([list](#)) etc.
- Continue with physics’ topics for outreach purposes, involving students in our research, e.g. via analysis tutorials.

Conclusion – Learning for life

- We do have many excellent colloquia & seminars but they can't be exhausting enough.
- Academic Training is rich (programme) and expanding (approved proposal) but people can't attend lectures every day.
- The most important reason: Intradisciplinary expertise reaches its limits when we hit the boundaries of “what we can think of” given the formatting our education gave us. By telling the world how we do things so far, other disciplines will give us this valuable “*other point of view*”, that can be:
 - Creativity booster
 - Mind opener
 - Time saver
 - Solidarity builder

