**Digital education & learning analytics**

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<table>
<thead>
<tr>
<th>Cursus</th>
<th>Sem.</th>
<th>Type</th>
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<td>Data Science</td>
<td>MA1, MA3</td>
<td>Opt.</td>
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<tr>
<td>Humanités digitales</td>
<td>MA1, MA3</td>
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<td>Informatique</td>
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<td>SC master EPFL</td>
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**Summary**

This course addresses the relationship between specific technological features and the learners’ cognitive processes. It also covers the methods and results of empirical studies on this topic: do students actually learn due to technologies?

**Content**


**Keywords**

*learning, pedagogy, teaching, online education, MOOCs*

**Learning Prerequisites**

*Recommended courses*

- Machine Learning (Jaggi / Urbanke)
- Applied Data Analysis (West)

**Learning Outcomes**

By the end of the course, the student must be able to:

- Describe the learning processes triggered by a technology-based activity
- Explain how a technology feature influences learning processes
- Elaborate a study that measures the learning effects of a digital environment
- Select appropriately a learning technology given the target audience and the expected learning outcomes
- Apply machine learning methods to educational traces

**Transversal skills**

- Set objectives and design an action plan to reach those objectives.

**Teaching methods**

The course will combine participatory lectures with a project around learning analytics.
Expected student activities
The project will include several milestones to be delivered along the semester.

Assessment methods

• Project + exam
• 50 / 50

Supervision
Office hours No
Assistants Yes
Forum Yes

Resources
Moodle Link
• http://moodle.epfl.ch/course/view.php?id=14248