



Computational Methods for Designing **Recommender Systems**

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Learning outcomes



After this course you will be able to:

- Develop foundational knowledge on Recommendation systems.
- Understand a wide variety of Recommendation system algorithms.
- Understand how to design and evaluate Recommendation systems in different application domains.
- Apply the learned skills to design Recommendation engines using real datasets, evaluate the designed engines and report results.

Prerequisites



- **Familiarity** with Machine Learning,
- **Knowledge** of Algebra and Calculus,
- **Prior experience** with **Python** programming language.



The Course



→ TOTAL estimated workload: 6 hrs

- Lecture hours: ~4.5 hours
- Practical work: ~1.5 hours

→ This lecture is a compressed version of [Recommender Systems: an overview](#)

A doctoral Course in Computer Science and Computer Engineering at University of Luxembourg.

- TOTAL Workload: 50 hrs

Timeline



Morning:

80min [09:00 - 10:20] **Session 1:** Introduction to Recommender Systems

10min [10:20 - 10:30] Break

90min [10:30 - 12:00] **Session 2:** The RecSys pipeline: A case-study approach

[12:00- 2:00] Lunch Break

Afternoon:

90min [2:00 - 3:30] **Session 3:** - Modern RecSys paradigms

10min [3:30 - 3:40] Break

80min [3:40 - 5:00] **Session 4:** Hands-on



- **Lecture Slides**
- **Jupyter Notebooks**
- **Additional reading**

