Data Mining and Knowledge Discovery

Course level: Master **Course code: MLDM DMKD** **ECTS Credits: 4.00**

Course instructors: Baptiste Jeudy,
Fabrice Muhlenbach (UJM, Saint- Etienne)


Education period (Dates): 2nd semester **Language of instruction:** English

Aim and learning outcomes:

This course presents an advance study of some data mining algorithms and techniques. The necessary theoretical background is also provided.

Topics to be taught (may be modified)~12h:

- Introduction to data mining
- Itemset mining algorithms
- Formal concept analysis
- Condensed representations

Practical Laboratory Sessions~8h:
1. Survey of data mining softwares
2. Data management with R
3. Association rules with R
4. An user-friendly data mining toolbox for R: Rattle
5. Mining databases: R and MySQL

Teaching methods: Lectures and lab classes.

Form(s) of Assessment: written exam (70%), practical work (30%)

Literature and study materials:

Basic textbooks:

- *Introduction to Data Mining,* Pang-Ning Tan, Michael Steinbach, Vipin Kumar.
- *Data Mining: Concepts and Techniques,* Jiawei Han and Micheline Kamber. *2nd ed. The Morgan Kaufmann Series in Data Management Systems*

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