Summary

This course introduces the key concepts and algorithms from the areas of information retrieval, data mining and knowledge bases, which constitute the foundations of today's Web-based distributed information systems.

Content

**Information Retrieval**

**Data Mining**

**Knowledge Bases**

Learning Prerequisites

Recommended courses

Introduction to Database Systems

Learning Outcomes

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

- Characterize the main tasks performed by information systems, namely data, information and knowledge management
- Apply semi-structured data models, their representation through Web standards and algorithms for storing and processing semi-structured data
- Apply fundamental models and techniques of text retrieval and their use in Web search engines
- Apply main categories of data mining techniques, local rules, predictive and descriptive models, and master representative algorithms for each of the categories
- Apply collaborative information management models, like crowd-sourcing, recommender systems, social networks

Teaching methods
Ex cathedra + programming exercises (Python)

Assessment methods
25% Continuous evaluations with bonus system during the semester
75% Final written exam (180 min) during exam session