

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE
MINISTERE DE L'ENSEIGNEMENT SUPERIEUR ET DE LA RECHERCHE SCIENTIFIQUE

Université de M'sila
Faculté des Mathématiques et de l'Informatique
Département d'informatique



جامعة المسيلة
كلية الرياضيات والإعلام الآلي
قسم الإعلام الآلي

Web Mining

La fouille du Web

Domain : Mathematics and computer science
Field : IT
Master's Program : RTIC

Presented by : Dr. Benazi Makhlouf
Year of study : second year
Academic year : 2025/2026

Practical Information



- **Course Title:** Web Mining
- **Teaching unit :** Fundamental (UEF 3.2)
- **Semester :** 03
- **Master's title :** RTIC
- **Coefficient :** 2
- **Credits :** 4
- **VH** 1.5 hrs lecture, 1.5 hrs lab session 4 Personal work
- **Evaluation method :** lab session : 50%, Final Exam: 50%.
- **Course Instructor:** Benazi Makhlouf
- **Email :** makhlouf.benazi@univ-msila.dz
- **Useful sites:** [Course:Web Mining | Moodle UMB](#)
<https://moodle.univ-msila.dz/moodle/course/view.php?id=81>

Course objectives

The goal of this module is to provide comprehensive insights into web mining, focusing on web content, structure, and usage. It also covers various social network analysis techniques.

Prerequisite knowledge:

Students should have a solid understanding of basic data mining concepts, including approaches and algorithms such as association rules, classification, and clustering.

References:

Yanchun Zhang, editor “Web Mining and Social Networking”, 2011, Springer.

Anthony Scime , “Web Mining,” 2005, Idea Group Publishing .

Content of the subject:

Chapter 1: Introduction: Data Mining and Web Mining

- 1.1. Definitions and Objectives
- 1.2. Importance of Data Mining
- 1.3. Context of Web Mining
- 1.4. Categories of Web Mining
- 1.5. Steps of Applying Data Mining

Chapter 2 : Review of Basic Concepts

- 2.1. Web Data Model and Representation
- 2.2. Similarity Functions
- 2.3. Information Retrieval (IR)

- 2.4. Performance Evaluation Metrics

Chapter 3: Web Content Mining

- 3.1. Introduction to Web Content Mining
- 3.2. Vector Space Model (VSM)
- 3.3. Web Search Techniques
- 3.4. Latent Semantic Indexing (LSI)
- 3.5. Automatic Topic Extraction

Content of the subject:

Chapter 4: Web Structure Mining

- 4.1. Introduction to Web Structure Mining
- 4.2. Graph-Based Modeling
- 4.3. PageRank and HITS Algorithms
- 4.4. Web Community Discovery

Chapter 5: Web Usage Mining

- 5.1. Introduction to Web Usage Mining
- 5.2. Data Collection and Sources
- 5.3. Data Preprocessing
- 5.4. Pattern Discovery in Web Usage Data
- 5.5. Applications of Web Usage Mining

Chapter 6: Social Network Extraction and Analysis

- 6.1. Introduction to Online Social Networks
- 6.2. Social Network Data Collection
- 6.3. Social Network Analysis and Visualization