Ministry of Higher Education and Scientific Research
University Center of Mila
Institute of Mathematics and Computer Science
Department of Computer Science
Master 2 I2A
2025/2026

Big Data

Presented by: Dr. Brahim Benabderrahmane

Objectives of the Big Data Course

01 Discovering Map/reduce methodology

02 Learning to use Hadoop

03 Learning to write and execute Hadoop Programs

04 Learning to use MangoDB

05 Learning to use Apache Spark

Prerequisites

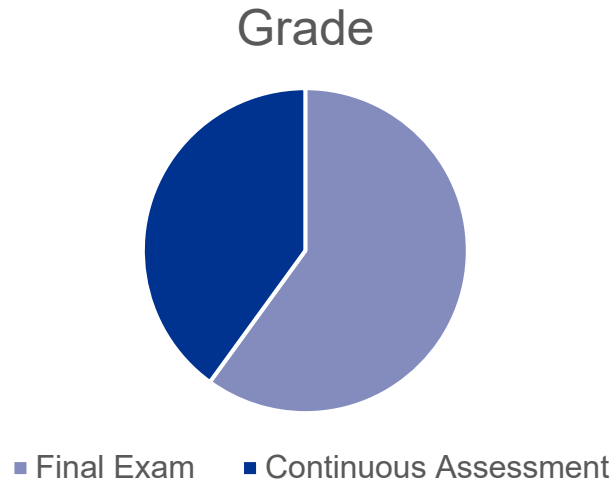
To get the most out of this course, you should be familiar with:

- Distributed Systems
- Object-Oriented Programming (Java)
- Databases
- Parallel and Distributed Algorithms

Evaluation Mode

The final evaluation consists of:

- A final exam, which accounts for 60% of the final grade.
- Continuous assessment for the remaining 40% (lab work, presentations, quizzes).



Course Plan

01 Introduction to Big Data

02 Hadoop Systems

03 Apache Spark

04 NoSQL Database – MongoDB

Directed Works Plan

01 Performance Metrics

02 Map/Reduce Algorithmics

02 HDFS

03 NoSQL

Practical works Plan

01 Environment Preparation

02 Sales analysis using Hadoop

03 A social network and “Commun friends” using Apache Spark

04 MongoDB and Java API

Presentation on Big Data technologies

- Apache Cassandra
- Apache Kafka
- QlikView
- Qlik Sense
- Table
- Apache Storm
- Apache Hive
- Apache Pig
- Presto
- Apache Flink
- Apache Sqoop
- Rapidminer
- KNIME
- Elasticsearch

Good Luck