



People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
Sétif 1 University – Ferhat Abbas

Faculty: Sciences

Bachelor in Big Data



Presentation and objective of the CS

The objective of the Big Data program is to train professionals capable of managing, analyzing, and leveraging very large volumes of heterogeneous and complex data. This program aims to equip students with advanced skills in the following areas:

- Data acquisition and storage
- Processing and analysis of massive datasets
- Visualization and interpretation of results
- Data security and ethics, as well as practical applications

Organization of Studies and Official Duration of the Program:

Program Overview:

Training Canvas:

- Programming 1 and 2
- Databases 1 and 2
- Probabilities and Statistics 1 and 2
- Mathematics 1 and 2
- Machine Architecture
- Introduction to Artificial Intelligence
- Big Data Tools and Architecture
- Machine Learning 1
- Knowledge Representation
- Cloud Computing
- Data Visualization
- Web and Mobile Applications
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Advanced training modules:

- Big Data Analytics
- Machine Learning 2
- Machine Learning 2
- Software Engineering
- Virtual and Augmented Reality
- Entrepreneurship and Startup
- Digital Economy
- Operational Research
- Project

Semester 01 :

- Programming 1
- Databases 1
- Probabilities and Statistics 1
- Mathematics 1
- Machine Architecture
- Health, Society and Humanity
- English Communication 1

Semester 02 :

- Programming 2
- Databases 2
- Probabilities and Statistics 2
- Mathematics 2
- Unix System Administration
- English Communication II
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Semester 03 :

- Information System
- Security and Privacy
- Database Administration
- Business Intelligence
- Introduction to Artificial Intelligence
- English Communication III

Semester 04 :

- Big Data Tools and Architecture
- Machine Learning 1
- Knowledge Representation
- Cloud Computing
- Data Visualization
- Web and Mobile Applications
- English Communication IV

Semester 05 :

- Big Data Analytics
- Machine Learning 2
- Machine Learning 2
- Software Engineering
- Virtual and Augmented Reality

- Enterprise Resources Planning

Language of instruction:

French and English

Training framework:

The tables provided in the previous section "Program Overview"

Coordinator of the Program:

Dr. Hakima LAASMI

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- Entrepreneurship and Startup
- Digital Economy

Semester 06 :

- Operational Research
- Project
- Enterprise Resources Planning

Curriculum Highlights:

The Big Data curriculum stands out for its multidisciplinary approach, combining computer science, statistics, and artificial intelligence, along with hands-on experience in cutting-edge technologies such as Hadoop, Spark, and NoSQL databases. It provides solid training in data acquisition, processing, analysis, and visualization, while also addressing ethical and legal issues related to data protection. Through practical projects, internships, and opportunities for research, the program effectively prepares students for rapid integration into a high-demand job market.

Admission Information:

The current application of Articles 171 and 1023 of Decrees:

- ❖ Skills and knowledge acquisition are assessed every six months through continuous assessment and a final exam.
- ❖ Progress from the first to the second year is automatic if the student has completed the first two semesters of the training program.
- ❖ The student's assessment focuses on, depending on the training program: lectures, practical work, tutorials, and practical internships.