

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

# Algorithmic and data structures 1

الخوارزميات وهياكل البيانات 1

**Domain:** Mathematics and computer sciences

**Branch:** computer sciences

**Presented by:** Dr. Benazi Makhoulouf

**Academic year:** 2023/2024



# Practical information

- **Subject Title:** Algorithmic and data structures 1
- **Teaching unit :** Fundamental (UEF12)
- **Semester :** 01
- **Coefficient :** 4
- **Credits :** 6
- **Teaching hours:** 3 hours of lectures, 1.5 hours of tutorials, 3 hours of practical work (lab), and 1.5 hours of personal work (self-study).
- **Evaluation method :** tutorials :20%, practical :20%, exam: 60%.
- **Teacher responsible for the Subject :** Benazi Makhlouf
- **Email:** [makhlouf.benazi@univ-msila.dz](mailto:makhlouf.benazi@univ-msila.dz)
- **Useful sites :** <https://elearning.univ-msila.dz/moodle/>
- **Facebook:** جامعة محمد بوضياف المسيلة-قسم الإعلام الآلي

## **Objectives of Teaching:**

To introduce the concepts of algorithms and data structures and enable the student to acquire the basic concepts of programming.

## **Prerequisite Knowledge:**

Basic concepts in mathematics.

# Course content

1. Chapter 1: Introduction + Historical Background
2. Chapter 2: Sequential Algorithm
  - Concept of language
  - Structure of an algorithm
  - Data: variables and constants, and Data Types
  - Basic operations
  - Basic instructions: Assignments and input/output
  - A simple algorithm
  - Flowcharts
  - Translation to C language
3. Chapter 3: Conditional Structures
4. Chapter 4: Loops
5. Chapter 5: Arrays and Strings
6. Chapter 6: Custom Data Types