

- **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, 1,5 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 Makhoulouf
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- **Useful sites :** <https://moodle.univ-msila.dz/moodle/>
- Facebook: [قسم الرياضيات جامعة المسيلة](#)

- **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