



SYLLABUS

Field :	Mathematics and computer science	Sector :	Computer science
Speciality:	Mathematics and Applied Computer Science in Economic and Management Sciences		
Semester :	First semester	Academic year :	2025/2026

Identification of the teaching subject

Couse title: Programming 1 (PRG1)

Teaching Unit : UFC1

Credits: 5

Coefficient : 3

Weekly teaching hours : 03H00

- **Lecture :** 03H00
- **Tutorials :** 1H30

Responsible for teaching subject

Name, Surname, Grade : Debbah Amina, Associate Professor A

Office location : Computer science department , office 13

Email : Amina.debah@univ-annaba.dz

Course Schedule and Location : **Monday:** 09:45 AM - 11:30 PM, **Thursday:** 8:00 AM - 09:45 AM, amphitheater 7



Course description

Prerequisites: Basic computer literacy and logical and mathematical reasoning skills

Course Objectives:

This course is aimed to introduce students to the fundamentals of programming and algorithmic thinking using Python. It focuses on developing problem-solving skills through the design and implementation of algorithms, covering key concepts such as data types, control structures, arrays, strings, and functions to build structured and efficient programs.

Learning objectives :

1. Understanding the basic principles of computer science and programming.
2. Design and represent algorithms to solve simple computational problems.
3. Write, test, and debug Python programs using sequential, conditional, and iterative structures.
4. Manipulate arrays, strings, and functions effectively in Python.
5. Apply modular programming principles through the use of procedures and functions.
6. Translate flowcharts and algorithmic logic into functional Python code

Course content

- Chapter 1 : Introduction
- Chapter 2 :Simple sequential algorithm (in algorithmic language and python)
- Chapter 3: Conditional structures (in algorithmic language and python)
- Chapter 4: Loops (in algorithmic language and python)
- Chapter 5: Arrays and strings
- Chapter 6:Subprograms : Functions and Procedures

Assessment method

Assessment type	Weight
Final exam	60%
Continuos assessment	40%
Total	100%



References

Textbook (main references) :

Title of the book	Author	Editor and year
Python Programming: An Introduction to Computer Science	John Zelle, Franklin,	Beedle & Associates Inc., 2017.
Introduction to Algorithms	Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein,	MIT Press, 2022 (4th Edition).
Learning Python	Mark Lutz	O'Reilly Media, 2013 (5th Edition)
Automate the Boring Stuff with Python	Al Sweigart	No Starch Press, 2020 (2nd Edition).

Course schedule (tentative)

week	Title of the course	Date
1	Chapter 1: Introduction	06/10/2025
2	Chapter 2: Simple sequential algorithm (1)	09/10/2025
3	Chapter 2: Simple sequential algorithm (2)	13/10/2025
4	Chapter 3: Conditional structures (1)	16/10/2025
5	Chapter 3: Conditional structures (2)	20/10/2025
6	Chapter 4: Loops	23/10/2025
7	Exercices	03/11/2025
8	Chapter 5: Array and strings	10/11/2025
9	Chapter 6: Subprograms : functions	25/11/2025
10	Chapter 6: Subprograms : procedures	01/12/2025
11	Final review and exam preparation	15/12/2025