Information sheet – Practical Workshop Introduction to Python Fundamentals

1   Workshop objectives

The objective of this workshop is to introduce to the fundamentals of programming in Python. The contents are focused on acquiring experience through practice.

After this workshop the participant is expected to be able to:

- Organize source code logically.
- Recognize the use of variables and data types used in Python.
- Make use of flow statements: conditionals, loops, functions.

The participant is encouraged to continue to increase their knowledge through practice and self-study.

2   Target audience

This workshop is for participants who want to improve their Python programming skills. The fundamentals needed to start coding small programs are explained.

Basic concepts of algorithmic thinking are explained, but the participant must improve this ability on their own through practice.

3   Methodology and evaluation

The lessons are designed to motivate the participants to apply the Python language in real life problems after the course. Links to Internet sites are provided as supplementary material. All the lessons include exercises for the participants, in order to fix the knowledge acquired.

Two lessons will be presented with explanation in class, the rest will be done as consultation and accompaniment classes. This workshop does not have evaluation exams.

4   Requirements

- Participants must have their computers; they must be enabled to install the tools proposed in the workshop.

5   Schedule proposed

Lesson	Objective	Duration	Date	Hour	Place
Lesson 1 - Introduction	Introduction to the workshop	30 minutes.	28/07/2023	15:00 – 15:30	Room 1.1
Lesson 2 – First steps with Python	Setting up the development environment	30 minutes	28/07/2023	15:30 – 16:00	Room 1.1
Lesson 3 – Fundamentals of Python	Introduction to programming in Python	1 hour	02/08/2023	15:00 – 16:00	Room 1.1
	Practical exercises	1 hour	04/08/2023	15:00 - 16:00	Virtual meeting
Accompaniment class 1	Optional	1 hour	08/08/2023	15:00 – 16:00	Virtual meeting
Accompaniment class 2	Optional	1 hour	16/08/2023	15:00 – 16:00	Virtual meeting

6   Contents

6.1   Lesson 1 – Introduction

- Workshop objectives.
- Target audience.
- Methodology and evaluation.
- Requirements.
- Schedule proposed.

6.2   Lesson 2 –Firs steps with Python

- About Python.
- Some examples developed using Python.
- Setting the development environment.
- First lesson to debug and fin errors.

6.3   Lesson 3 –Fundamental of Python

- Introduction to algorithmic thinking: flow diagrams, flow control, conditionals, loops, inputs and outputs.
- Variables: assignment, names, scope. Types: numbers, strings, lists, dictionaries.
- Control flow sentences, conditionals and loops, functions.
- Outputs: text files, CSV files.