Programming II

Academic Year: (2025 / 2026) **Review date: 05/05/2025 11:24:45**

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: LOPEZ CUADRADO, JOSE LUIS

Type: Compulsory ECTS Credits : 6.0

Year : 1 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Programming 1

OBJECTIVES

The course aims to teach students the Python programming language, focusing on applied aspects of data management and analysis.

DESCRIPTION OF CONTENTS: PROGRAMME

Topic 1. The Python programming environment.
Topic 2. Python syntax. Functions, Modules and Libraries. Exceptions and Exception Handling.
Topic 3. Data Types and Data Structures in Python.
Topic 4. Python File Handling.
Topic 5. Libraries for Calculation and Data Analysis in Python
Topic 6. Generating Graphs in Python.

LEARNING ACTIVITIES AND METHODOLOGY

The course will be taught in theory classes through lectures and practical exercises and practical classes through tutorials. The master classes will be focused so that the student acquires the necessary knowledge about Python for their professional development. The practical classes will be developed so that, in a tutored way, the student acquires skills in Python programming with a focus on data management.

ASSESSMENT SYSTEM

% end-of-term-examination/test:	0
% of continuous assessment (assigments, laboratory, practicals…):	100

The evaluation will be 100% continuous through several practices (work and projects) that will be carried out during the course.

BASIC BIBLIOGRAPHY

- Fabio. Nelli Python Data Analytics : With Pandas, NumPy, and Matplotlib, Berkeley, CA : Apress : Imprint: Apress, 3rd Edition. 2023

- Jacob T. Vanderplas Python data science handbook : essential tools for working with data, O'Reilly Media, 2nd Edition. 2023

- Packt Publishing, publisher Data manipulation in Python : master Python, NumPy, and Panda (Video disponible en biblitoteca), Packt Publishing, publisher , 2022

BASIC ELECTRONIC RESOURCES

- Fabio Nelli . Python Data Analytics : With Pandas, NumPy, and Matplotlib: https://learning.oreilly.com/library/view/~/9781484295328/?ar

- Jake VanderPlas . Python Data Science Handbook (2nd Edition): https://learning.oreilly.com/library/view/python-data-science/9781098121211/?ar=

- Packt Publishing, publisher. . Data manipulation in Python : master Python, NumPy, and Pandas.: https://learning.oreilly.com/course/data-manipulation-in/9781804614396/

- Python Software Foundation . Python for Beginners: https://www.python.org/about/gettingstarted/