

SUBJECT TEACHING GUIDE

360 - Advanced Programming

Master's Degree in Mathematics and Computing

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Master's Degree in Mathematics and Computing			Type and Year	Compulsory. Year 1
Faculty	Faculty of Sciences				
Discipline					
Course unit title and code	360 - Advanced Programming				
Number of ECTS credits allocated	3	Term	Semester based (1)		
Web	https://personales.unican.es/crespoj/programacion/index.html				
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. MATEMATICA APLICADA Y CIENCIAS DE LA COMPUTACION				
Name of lecturer	JOSE LUIS CRESPO FIDALGO				
E-mail	luis.crespo@unican.es				
Office	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 4. DESPACHO JOSE LUIS CRESPO FIDALGO (S4042)				
Other lecturers					

3.1 LEARNING OUTCOMES
- Assemble software tests
- Apply object oriented programming
- Apply functional programming
- Practical application of main abstract data types
- Vectorization usage
- Concepts of parallel programming

4. OBJECTIVES

Advanced programming
Abstract data types in object oriented programs
Practical application of algorithms and abstract data types
Finding the right package/library for a specific purpose

6. SUBJECT PROGRAM

CONTENTS

1	Python introduction. Test oriented programming.
2	Vector operations: numpy
3	Functional programming
4	Object oriented programming
5	Abstract data types
6	Quest for speed. Parallel programming

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Exercises and programs	Others	No	Yes	40,00
Exams along the course	Laboratory evaluation	No	Yes	60,00
TOTAL				100,00
Observations				
Should any prevailing requirements forbid face-to-face evaluation, number, weights, conditions and exercise types would vary.				
Observations for part-time students				
Students that are unable to attend classes or to prepare presentations, may opt for a makeup exam.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
Se proporcionarán materiales a lo largo del curso. El apoyo principal es la documentación oficial: https://docs.python.org/es/3/ (visitado el 11-5-23)