

SUBJECT TEACHING GUIDE

G427 - Fundamentals of Computation

Degree in Mechanical Engineering

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	Degree in Mechanical Engineering			Type and Year	Core. Year 1
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Computer Science Basic Training Module				
Course unit title and code	G427 - Fundamentals of Computation				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. MATEMATICA APLICADA Y CIENCIAS DE LA COMPUTACION				
Name of lecturer	AKEMI GALVEZ TOMIDA				
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Other lecturers					

3.1 LEARNING OUTCOMES
- Knowing what is the main purpose of computer science and the computer programs and what are the fundamentals of this field.
- Knowing the basic terminology of computer science.
- Knowing and understanding the basic concepts related to computer science, hardware and software.
- Be able to understand and apply the main concepts and basic techniques of programming.
- Acquire the knowledge and skills to be able to study a programming language autonomously.

4. OBJECTIVES

Ability to understand the basic computer working and operational principles.

Ability to understand and know how to apply the basic principles of computer programming.

6. COURSE ORGANIZATION

CONTENTS

1	Fundamentals of computing. Basic concepts, hardware, software, computer applications, databases, using a computer and operating systems.
2	Computer programming. Fundamentals of programming. Structured programming methodology.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Practical tests at the classroom and the computer lab.	Others	No	Yes	50,00
Assessment tests.	Others	No	Yes	20,00
End-term exam.	Others	Yes	Yes	30,00
TOTAL				100,00
Observations				
Given the uncertain current health situation, in case the competent health and educational authorities not allow any assessment activity to be carried out in person in the classroom, a distance assessment method will be adopted using online tools.				
Observations for part-time students				
Part-time students enrolled in the course will be assessed in a similar way to full-time students.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

A. Prieto Espinosa, B. Prieto Campos: "Conceptos de Informática". McGraw-Hill (2005).

F. Alvarez García, et al: "Informática General". Servitec (2006)

A. Kaw, D. Miller: "Introduction to programming concepts using MATLAB. 2nd. edition" (2011).

M. Austin, D. Chancogne: "Introduction to engineering programming: in C, Matlab and Java". John Wiley (1999).

D. Etter: "Solución de problemas de ingeniería con Matlab. 2da Ed.". Prentice Hall (1997)