SUBJECT TEACHING GUIDE

G323 - Fundamentals of Computing

Degree in Chemical Engineering
First Degree in Chemical Engineering

Academic year 2023-2024

1. IDENTIFYING DATA				
Degree	Degree in Chemical Engineering First Degree in Chemical Engineering		Type and Year	Core. Year 1 Core. Year 1
Faculty	School of Industrial Engineering and Telecommunications			
Discipline	Subject Area: Computer Science Basic Training Module			
Course unit title and code	G323 - Fundamentals of Computing			
Number of ECTS credits allocated	6	Term	Semester based (1)	
Web				
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	PILAR BERNARDOS LLORENTE
E-mail	pilar.bernardos@unican.es
Office	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 5. DESPACHO (S5018)
Other lecturers	MARIANO NOZAL GUTIERREZ JOSE DEMETRIO GOMEZ VAQUERO

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.
- Be able to design and implement algorithms to solve general problems as a previous step to address specific problems in Chemical Engineering.
- Acquire the knowledge and skills to be able to study a programming language autonomously.
- Ability to build operational computer programs using a programming language and environment
- Ability to use computational tools to solve engineering problems.

4. OBJECTIVES

Knowing what is the purpose of computing and software applications and what are the pillars on which this discipline is settled.
Acquiring a logic-based reasoning methodology for problem-solving.
Ability to debug errors in the interpretation and execution of programs in a programming language.
Design quality and efficient programs to solve engineering problems.
Use computer tools such as spreadsheets and databases to solve engineering problems.

6. COURSE ORGANIZATION

CONTENTS	
1	Fundamentals of computer science, hardware, software, applications, databases, use of computer and operating systems.
2	Computer programming. Basics 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	85,00
Continuous assessment	Others	No	Yes	15,00
TOTAL				100,00

Observations
* A minimum score of 5 is required to pass the subject successfully. * To pass each test, you may be required to reach a minimum grade in the minimum basic knowledge module. Such a grade will be properly indicated before each test. * To access the theoretical final exam, it will be required to have previously submitted and passed successfully a minimum number of individual written assignments corresponding to this part of the subject. The guidelines and dates of delivery of such written assignments will be announced properly well in advance to each deadline.
Observations for part-time students
The assessment of part-time students enrolled in the subject will be similar to that of the full-time students.

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Material de la asignatura en Moodle.