

SUBJECT TEACHING GUIDE

G323 - Fundamentals of Computing

Degree in Chemical Engineering

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Degree in Chemical 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	G323 - Fundamentals of Computing				
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	ANDRES IGLESIAS PRIETO				

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.

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.

Promoting the critical analysis based on reliable sources and scientific studies about the use and applications of computer science technology.

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	40,00
Practical exam.	Others	Yes	Yes	40,00
Theoretical exam.	Written exam	Yes	Yes	20,00
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

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. Hanselman, B. Littlefield: "Mastering Matlab 7". Pearson Education (2005).