uc3m | Universidad **Carlos III** de Madrid

Computing Systems I

Academic Year: (2022 / 2023)   **Review date: 01-06-2022**

Department assigned to the subject: Systems Engineering and Automation Department

Coordinating teacher: CASTRO GONZALEZ, ALVARO

Type: Compulsory ECTS Credits : 6.0

Year : 2 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Programming (course: 1, semester 1)

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction to computer systems development
2. Introduction to Software Engineering (requirements, Unified-Modeling Language, and Object-Oriented analysis)
3. Object-Oriented Design
4. Object-Oriented Programming in C + +

LEARNING ACTIVITIES AND METHODOLOGY

The learning activities include:

Lectures, classes for resolution of doubts in small groups, student presentations, tutorials and individual work of students; aimed at the acquisition of knowledge (3 ECTS).
Laboratory practices and sections of problems in small groups, individual tutorials and individual work of students, aimed at the acquisition of practical skills related to the syllabus of the subject (3 ECTS).

ASSESSMENT SYSTEM

The evaluation system includes continuous assessment of student work (papers, reports of laboratory practice, class participation and skills assessment tests of theoretical and practical knowledge) and the final assessment through a written final exam in which the knowledge, skills and abilities acquired throughout the course will be evaluated comprehensively . The percentages allocated is: 60% continuous assessment and 40% final exam.

% end-of-term-examination:	40
% of continuous assessment (assigments, laboratory, practicals…):	60

BASIC BIBLIOGRAPHY

 - Bjarne Stroustrup The C++ Programming Language, fourth Edition, Addison-Wesley, 2013

 - Harvey. M. Deitel and Paul. J. Deitel C++ How to Program ¿ (9th Edition: introducing the new C++11 Standard), Prentice Hall, 2011
 - Joseph Schmuller Sams Teach Yourself UML in 24 Hours, Third Edition, Sams Publishing, 2004

 - Stanley B. Lippman, Josée Lajoie "C++ Primer",Tercera Edición,, Addison-Wesley,, 1998

BASIC ELECTRONIC RESOURCES

 - cplusplus.com . Information on the C++ language: https://cplusplus.com/