

28903 - Computer science

Información del Plan Docente

Academic Year	2017/18
Faculty / School	201 - Escuela Politécnica Superior
Degree	437 - Degree in Rural and Agri-Food Engineering
ECTS	6.0
Year	1
Semester	Half-yearly
Subject Type	Basic Education
Module	---

1.General information

1.1.Introduction

Computer Science is a fundamental tool in any engineering environment. The course introduces basic concepts about computer.

The course focuses on developing the student's abilities to analyze problems, and to design an algorithm that solves them

1.2.Recommendations to take this course

No previous knowledge is necessary.

The study of the initial theoretical concepts must be studied.

The class exercises must be solved by you.

1.3.Context and importance of this course in the degree

This subject belongs to basic knowledge for any engineer.

Computer skills will be required to study other subjects in the career.

1.4.Activities and key dates

At the end of course a practice must be submitted.

There will be an exam at the end of course

2.Learning goals

2.1.Learning goals

- Understand the theoretical knowledge
- Know how to use information technology effectively as a standard tool in their work
- Have the capacity to analyze a problem and design an algorithm for its resolution
- Know how to codify the algorithms using a high level programming language

2.2.Importance of learning goals

Any engineer must work with computers, and an efficient use of them is needed.

In addition, they will learn how to analyze complex problems in order to solve them with a computer

3.Aims of the course and competences

3.1.Aims of the course

- The student must be able to analyze problems
- The student must be able to solve problems using a computer
- The student must be able to use computers efficiently

3.2.Competences

- Use of new information technologies.
- Have basic knowledge about Computer Science
- Teamwork.

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

The subject's evaluation will be global , with two annual tests

The evaluation will consist of three parts:

1. Exam; 65 % of the final grade .
2. Partial work : 10%
3. Final work : 25%.

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

Initial theoretical subjects that the student must study.

Most of the course the classes will be based in problem resolution

5.2.Learning tasks

- Lectures: 20 hours
- Problems: 10 hours

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- Practical classes: 30 hours

5.3.Syllabus

Theory

1. Introduction to Computers

1.1 . Hardware

1.2 . Software

2. Algorithmic

2.1 . Introduction

2.2 . Scalar types

2.3 . Assignment sentence

2.4 . Alternative sentence

2.5 . Repetitive sentence

2.6 . Sequences

2.7 . Subprograms

2.8. Arrays

2.9 . Records

Practices

1. Introduction

2. Spreadsheets

3. Programming

5.4.Course planning and calendar

Weekly hours :

- Theory and problems: 2h
- Computer Classroom practices: 2h

5.5.Bibliography and recommended resources

BC	Biondi, Joëlle. Introducción a la programación. T. 1, Algorítmica y lenguajes / Joëlle Biondi, Gilles Clavel ; versión castellana de Josep Vilaplana Pastó . 2ª ed. Barcelona : Masson, 1988
BC	Clavel, Gilles. Introducción a la programación. T. 2, Estructuras de datos / Gilles Clavel, Joëlle Biondi ; versión castellana de Nuria Castell Ariño . - [1a. ed.] Barcelona : Masson, 1985
BC	Dale, Nell. Pascal / Nell Dale, Chip Weems . 2a. ed. Madrid [etc.] : McGraw-Hill, D.L.1994
BC	Desarrollo de algoritmos y técnicas de programación en Pascal / Cristobal Pareja Flores...[et al.] . - [1a. ed.] Madrid : RA-MA, 1997
BC	Joyanes Aguilar, Luis. Fundamentos de programación : Libro de problemas / Luis Joyanes Aguilar, Luis Rodríguez Baena, Matilde Fernández Azuela . 2ª ed. Madrid [etc.] : McGraw-Hill, D.L. 2003
BC	Joyanes Aguilar, Luis. Pascal y Turbo Pascal : un enfoque práctico / Luis

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BC

Joyanes Aguilar, Ignacio Zahonero
Martínez, Angel Hermoso López . [1a. ed.
en español, reimpr.] Madrid [etc.] :
McGraw-Hill, D.L.1997
Salmon, William I.. Introducción a la
computación con Turbo Pascal (5.0/5.5/
6.0/TPW) : estructuras y abstracciones /
William I. Salmon ; versión en español de
Roberto Escalona García .
Wilmington, Delaware : Addison-Wesley
Iberoamericana, cop.1993

LISTADO DE URLs:

Curso de Pascal
[<http://www.aprendeaprogramar.com/course/view.php?id=7>]

The updated recommended bibliography can be consulted in:
<http://psfunizar7.unizar.es/br13/egAsignaturas.php?id=2216>