28702 - Computer Science

Syllabus Information

Academic Year: 2019/20
Subject: 28702 - Computer Science
Faculty / School: 175 -

Degree: 423 - Bachelor's Degree in Civil Engineering

ECTS: 6.0
Year: 1
Semester: First semester
Subject Type: Basic Education
Module:

1.General information

1.1.Aims of the course

The subject and its expected results respond to the following approaches and objectives:

- The general objective of this course is that the student acquires the necessary knowledge and skills on the use and programming of computers and the efficient use of desktop tools and applications and university interaction and communication. Therefore, firstly, the necessary training is provided so that the student learns and uses adequately the electronic mail and virtual campus services, offered by the University of Zaragoza.

- In addition, the student is trained in the basic foundations of programming and in the installation, configuration and personalization of basic computer applications. Likewise, the aptitudes and attitudes of the student are strengthened so that he is able to work and learn autonomously, integrate knowledge, manage information, develop their critical thinking so that he can analyze and solve the problems that may arise, related to information management through computer applications.

1.2.Context and importance of this course in the degree

It is offered in the first semester of the first year of the degree and is notedly technological.

This course has a major goal: Students must develop a number of skills in Information and Communication Technologies (ICT) that will be very useful for their academic development, the self-learning of computer tools and training in digital competences for their future work experience where, undoubtedly, they will use a wide and varied number of computer applications.

Due to the nature of the course, and the time context in which it is located, it also has the responsibility of training the student in the use of University Web applications, namely, surfing on official websites (unizar and eupla), email (unizar), Virtual campus (Moodle), OCW, etc.

1.3.Recommendations to take this course

Students must acquire basic knowledge in the use of a computer and its most common peripherals, office software, file and directory management and Internet surfing.
Knowledge prior to the access to university is considered sufficient.

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

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

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

Strong interaction between the teacher/student. This interaction is brought into being through a division of work and responsibilities between the students and the teacher. Nevertheless, it must be taken into account that, to a certain degree, students can set their learning pace based on their own needs and availability, following the guidelines set by the teacher.

The current subject (Computing) is conceived as a stand-alone combination of contents, yet organized into three fundamental and complementary forms, which are: the theoretical concepts of each teaching unit, the solving of problems or resolution of questions, at the same time supported by other activities

The organization of teaching will be carried out using the following steps:

- **Theory Classes**: Theoretical activities carried out mainly through exposition by the teacher, where the theoretical supports of the subject are displayed, highlighting the fundamental, structuring them in topics and or sections, interrelating them.
- **Practical Classes**: The teacher resolves practical problems or cases for demonstrative purposes. This type of teaching complements the theory shown in the lectures with practical aspects.
- **Individual Tutorials**: Those carried out giving individual, personalized attention with a teacher from the department. Said tutorials may be in person or online.

4.2.Learning tasks

Involves the active participation of the student, in a way that the results achieved in the learning process are developed, not taking away from those already set out, the activities are the following:

? **Face-to-face generic activities**:

? **Theory Classes**: The theoretical concepts of the subject are explained and illustrative examples are developed as support to the theory when necessary.

? **Practical Classes**: Problems and practical cases are carried out, complementary to the theoretical concepts studied.

? **Generic non-class activities**:

? Study and understanding of the theory taught in the lectures.

? Understanding and assimilation of the problems and practical cases solved in the practical classes.

? Preparation of seminars, solutions to proposed problems, etc.

? Preparation of the written tests for continuous assessment and final exams.

4.3.Syllabus

Theory contents
 - Information management
 - Automatic calculation
 - Programming

Practical contents
 - Assignment on information management tools
 - Assignment on spreadsheet
 - Programming

4.4.Course planning and calendar

The subject has 6 ECTS credits, which represents 150 hours of student work in the subject during the trimester, in other words, 10 hours per week for 15 weeks of class.

A summary of a weekly timetable guide can be seen in the following table. These figures are obtained from the subject file in the Accreditation Report of the degree, taking into account the level of experimentation considered for the said subject is moderate.

Activity	Weekly school hours
Lectures	4

Practical Activities _____ 6

Nevertheless the previous table can be shown into greater detail, taking into account the following overall distribution:
? 50 hours of lectures, with 50% theoretical demonstration and 50% solving type problems.
? 6 hours of written assessment tests, one hour per test.
? 4 hours of PPT presentations.
? 90 hours of personal study, divided up over the 15 weeks of the 2nd semester.

The written assessment tests will be related to the following topics:
  - Assignment on information management tools
  - Assignment on spreadsheet
  - Programming

There is a tutorial calendar timetable set by the teacher that can be requested by the students who want a tutorial.

The dates of the final exams will be those that are officially published at
https://eupla.unizar.es/asuntos-academicos/examenes.

4.5.Bibliography and recommended resources

http://biblos.unizar.es/br/br_citas.php?codigo=28702&year=2019