Universidad Zaragoza

28840 - Advanced IT

<u>**Información del Plan Docente**</u>

Academic Year	2017/18
Faculty / School	175 - Escuela Universitaria Politécnica de La Almunia
Degree	424 - Bachelor's Degree in Mechatronic Engineering
ECTS	4.0
Year	4
Semester	Second semester
Subject Type	Optional
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

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

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The learning process designed for this subject is based on the following:

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 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.
- Laboratory Workshop : The lecture group is divided up into various groups, according to the number of registered students, but never with more than 20 students, in order to make up smaller sized groups.
- Individual Tutorials : Those carried out giving individual, personalized attention with a teacher from the department. Said tutorials may be in person or online throught moodle.

5.2.Learning tasks

The programme offered to the student to help them achieve their target results is made up of the following activities...

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.
- **Laboratory Workshop** : This work is tutored by a teacher, in groups of no more than 20 students.
- **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 laboratory workshops, preparation of summaries and reports.
- Preparation of the written tests for continuous assessment and final exams.

The subject has 4 ECTS credits, which represents 100 hours of student work in the subject during the trimester.

5.3.Syllabus

1 Theoretical contents

- Operating systems
- Object oriented programming
- Introduction to concurrency and real time
- Data bases

2 Practical contents

- Learn to install, configure and use operating systems.
- Learn programming with object oriented languages.
- Learn to install, configure and use complementary software tools, involved in a program creation.

5.4.Course planning and calendar

The dates of the works deadlines will be communicated in class sessions or in moodle platform: http://moodle.unizar.es .

The weekly timetable will be published in moodle at the start of semester. The dates of continuous assessment works and the publication dates of califications, will be published in moodle at the start of semester.

The dates of the final exams will be those that are officially published at http://www.eupla.es/secretaria/academica/examenes.html.

In the global evaluation system, the delivery dates of works will be published in moodle, and will be previous to final exams.

5.5.Bibliography and recommended resources

UPDATED BIBLIOGRAPHY CAN BE VIEWED IN THE WEB PAGE http://psfunizar7.unizar.es/br13/eBuscar.php?tipo=a

There not exists bibliography

URLs LISTING:

Hertzog, Raphaal. Debian administrator's handbook : Debian wheezy from discovery to mastery / Raphaël Hertzog and Roland Mas. Freexian Sarl , 2013 Creative Commons Attribution-ShareAlike 3.0 - [https://debian-handbook.info/get/now/]
Introduction to Linux A Hands on Guide Machtelt Garrels - [http://tille.garrels.be/training/tldp/]
Making reliable distributed systems in the presence of software errors - [http://www.erlang.org/download/armstrong_thesis_2003.pdf]
Motor de base de datos sqlite - [http://www.sqlite.org]
Programación en C++ - [https://es.wikibooks.org/wiki/Programaci%C3%B3n_en_C%2B%2B]