Universitat de Lleida

DEGREE CURRICULUM
INDUSTRIAL INFORMATICS

Academic year 2014-15

Subject's general information

Subject name	Industrial Informatics
Code	102129
Semester	2n Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Theoretical credits	3
Practical credits	3
Office and hour of attention	Email to the professor
Department	Informàtica i Enginyeria Industrial
Teaching load distribution between lectures and independent student work	40% lecture 60% independent student work
Modality	Presencial
Important information on data processing	Consult this link for more information.
Language	Idioma Percentatge d'ús Castellà 0.0 Català 90.0 Anglès 10.0
Degree	Degree in Automation and Industrial Electronic Engineering
Office and hour of attention	Email to the professor
E-mail addresses	f.guirado@diei.udl.cat

Fernando Guirado Fernández

Subject's extra information

Course taught in the second semester of the third year.

Is within the specific training modules.

Learning objectives

See section competencies

Competences

Strategic competencies of the University of Lleida

- Domain of Information Technology and Communication.

Specific skills of the program

- Applied knowledge of industrial computing and communications.

Transversal competences of the degree

- Ability to solve problems and develop and defend arguments in their area of study.

Subject contents

1. Operative System LINUX
    1. The file system structure
    2. The file system Permission
    3. Process manegement
    4. Scripts Programming
2. Language C Programming
    1. The GNU compiler
    2. Compiler directives
    3. Data types
    4. Variable declaration
    5. Operators
    6. Basic programming structures
    7. Functions
    8. Data estructures

Methodology

The course is composed by a part of a theory that explains the basics of the course content.

These concepts will come-supported by a large part of practices that are required, compulsory attendance and finally they must be validated by a test done in the laboratory.

Development plan

Week	Development

INDUSTRIAL COMPUTING 2014-15

1	Presentation and contents summary
	Introduction to the Operative Systems. LINUX operative System - Introduction to the file system
2	LINUX operative System - Introduction/File system
	LINUX operative System - File system
3	LINUX operative System - File system
	LINUX operative System - Permissions
4	LINUX operative System - Permissions
	EPS day
5	LINUX operative System - Process status
	LINUX operative System - Process status
6	LINUX operative System - Scripts
	LINUX operative System - Scripts
7	C Programming Introduction - Structured programming
	The gcc compiler, error control and deputarion
8	The gcc compiler, error control and deputarion
	Compilation directives - Data types and operators
9	**Exams**
10	Algorithms - Flow diagrams
	Students day
11	Functions - Libraries
	Functions - Libraries
12	Pointers, memory, multiple parameters passing
	Pointers, memory, multiple parameters passing
13	Arrays - Vectors
	Arrays - Vectors
14	Data structures
	Data structures
15	Final activity
	Final activity

Evaluation

The evaluation has two parts: Written and Practice

The mark of the exam is 30% of the total grade for the course. There will be two written examination proves, each one will have the same weight and have no minimum note.

The practice note is 70% of the total grade for the course

In order to the practice part being evaluated it is necessary to pass a validation test that has not any note.

Bibliography

Recommended bibliography

Sistemas de tiempo real y lenguajes de programación
A. Burns, A. Wellings, Addison Wesley, 2003.

Real-Time Systems: Design Principles for Distributed Embedded Applications
Hermann Kopetz, Springer; 2nd Edition, 2011

Autómatas Programables.
Joseph Balcells, J. L. Romeral, Ed. Marcombo – Serie Mundo Electrònico