Universitat de Lleida

DEGREE CURRICULUM
INDUSTRIAL INFORMATICS

Academic year 2013-14

Subject's general information

Subject name	Industrial Informatics
Code	102129
Semester	2n Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Theoretical credits	0
Practical credits	0
Department	Informàtica i Enginyeria Industrial
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
Office and hour of attention	Thursday - 17h to 18h

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. Operating Systems

- Introduction to Operating Systems
- Resource Management: Processes and Memory
- Real Time Operating Systems

2. Technology Industrials LANs

- Introduction to industrial networks
- Structure and components of an industrial control network.
- Industrial Ethernet
- Field Buses

3. embedded Systems

- Introduction to Embedded Systems
- internal architecture
- Embedded control systems, sensors and actuators
- Buses and communications to embedded systems

4. SCADA systems

- Introduction to SCADA
- Components of a SCADA system
- SCADA system functions

Methodology

INDUSTRIAL COMPUTING 2013-14

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.

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