



Universitat de Lleida

DEGREE CURRICULUM
INDUSTRIAL
INSTRUMENTATION

Academic year 2014-15

Subject's general information

Subject name	Industrial Instrumentation
Code	102126
Semester	2n Quadrimestre
Typology	Obligatòria
ECTS credits	6
Theoretical credits	0
Practical credits	0
Office and hour of attention	Horari a convenir. Lloc: sala de professors associats (1.06 edifici EPS)
Department	Informàtica i Enginyeria Industrial
Modality	Presencial
Important information on data processing	Consult this link for more information.
Language	Idioma Percentatge d'ús Castellà 10 % Anglès 20 % Català 70 %
Degree	Degree in Automation and Industrial Electronic Engineering
Office and hour of attention	Horari a convenir. Lloc: sala de professors associats (1.06 edifici EPS)
E-mail addresses	fcolell@diei.udl.cat

Francesc Colell Pons

Subject's extra information

They have to have knowledge of analysis and development of electronic circuits, analogy and digital. For this reason it is recommended to have completed the second year subjects: fundamentals of electronic engineering, industrial automation and fundamentals of electrical engineering.

Compulsory subject in the third year, second semester of Engineering Degree in Industrial Electronics and Automation. This course is intended for students to acquire skills in the analysis and study of industrial instrumentation associated with industrial processes, its regulations and its applications. In fact, in all industrial activity there is a need to measure, control and monitor the operation of the processes, therefore there is a need for specialized personnel in industrial instrumentation.

Learning objectives

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Es pretén que l'alumne:

- Adquireixi competències en l'anàlisi i estudi de la instrumentació industrial associada als processos industrials, la seva normativa vigent i les seves aplicacions.
- Disposi de la capacitat per a analitzar i decidir quin tipus de sensor és el més convenient quan es desitja mesurar, controlar i/o monitoritzar el funcionament dels processos industrials.

Competences

Degree-specific competences

- Applied knowledge of high-power electronics.
- Knowledge of the principles and applications of analogical electronics.
- Knowledge of the principles and applications of digital electronics and microprocessors.
- Applied knowledge of electronic instrumentation.

Goals

- Develop flowcharts and instrumentation drawings.
- Knowing the rules in the industrial instrumentation.
- Knowing technically evaluate different technologies moderation.
- Select and size the most suitable for implementing a particular process.

Degree-transversal competences

- Ability to resolve problems and elaborate and defend arguments inside their field of study.
- Ability to analyse and synthesize.

Subject contents

1. Industrial instrumentation regulations.
2. Basics for measuring instruments.
3. Different sensors and gauges of physical parameters.
4. Criteria for the selection of sensors.
5. Facilities instruments.

Evaluation

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La puntuació total es desglossa de la següent manera:

- 9a setmana, parcials: PA1 examen teòric que puntuarà un 40%.
- 14a setmana: Pràctiques que puntuaran un 20%.
- 16a setmana, exàmens: PA2, examen teòric que puntuarà un 40%.
- 19a setmana, activitats de recuperació: examen teòric de recuperació que puntuarà un 80%.

Bibliography

Recommended bibliography

COURSE NOTES.

RULES:

"Instrumentation Symbols and Identification", ANSI/ISA-S5.1, 1984 (R1986).

"Instrument Loop Diagrams", ANSI/ISA-S5.4, 1976 (R1991)

"Graphic Symbols for Process Displays", ANSI/ISA-S5.5, 1985 (R1986)

"Binary Logic Diagrams for Process Operations", ANSI/ISA-S5.2, 1976 (R1981)

BOOKS:

ISBN(13): 9788497321662

Title: INSTRUMENTACIÓN ELECTRÓNICA (1ª)

Authors: Grillo Ortega, Gustavo Jacinto; Ferrero Martín, Francisco Javier;

Campo Rodríguez, Juan Carlos; Álvarez Antón, Juan Carlos; Pérez García, Miguel Ángel.

Editorial: THOMSON PARANINFO,S.A.

ISBN(13): 9788426713612

Title: INSTRUMENTACIÓN INDUSTRIAL (7ª)

Author: Creus Solé, Antonio;

Editorial: MARCOMBO, S.A.