



## Course guide

### 340245 - SIIN-K7P10 - Instrumentation Systems

Last modified: 31/03/2025

**Unit in charge:** Vilanova i la Geltrú School of Engineering  
**Teaching unit:** 710 - EEL - Department of Electronic Engineering.

**Degree:** BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).

**Academic year:** 2025 **ECTS Credits:** 6.0 **Languages:** Catalan, Spanish

#### LECTURER

**Coordinating lecturer:** JOAQUIN DEL RIO FERNANDEZ

**Others:** JOAQUIN DEL RIO FERNANDEZ

#### PRIOR SKILLS

It is recommended to have previously taken the Electronic Instrumentation course, although it is not essential.

#### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

**Specific:**

1. CE23. Applied knowledge of electronical instrumentation.
2. CE24. Ability to design electronical, analog, digital and power systems.
3. CE28. Applied knowledge of industrial and communication computing.
4. CE29. Ability to design automation control systems.
5. CE3. Fundamental knowledge of use and programming of computer, operating systems, data base and informatic programs with application in engineering.

#### TEACHING METHODOLOGY

#### LEARNING OBJECTIVES OF THE SUBJECT

#### STUDY LOAD

| Type              | Hours | Percentage |
|-------------------|-------|------------|
| Hours small group | 30,0  | 20.00      |
| Hours large group | 30,0  | 20.00      |
| Self study        | 90,0  | 60.00      |

**Total learning time:** 150 h

#### CONTENTS

(ENG) TEMA 1. Introducció al control d'instrumentació



(ENG) TEMA 2. Aplicació dels Processadors Digitals de Senyal a la instrumentació

(ENG) TEMA 3. Interfícies de comunicació. - Sèrie: Assíncron, Síncron. - Paral.lel.

(ENG) TEMA 4. Sistemes d'Adquisició de dades

(ENG) -Dessenvolupament d'aplicacions amb LabVIEW de Control d'instrumentació i Adquisició de Dades

## GRADING SYSTEM

---

## BIBLIOGRAPHY

---

### Basic:

- Biel Solé, Domingo; Olivé, Joaquim; Prat, Jordi; Sánchez Robert, Francesc; Manuel Lázaro, Antonio. Instrumentación virtual : adquisición, procesado y análisis de señales [on line]. Barcelona: Edicions UPC, 2001 [Consultation: 24/03/2022]. Available on: <https://upcommons.upc.edu/handle/2099.3/36187>. ISBN 8483014734.
- Shariat Panahi, Shahram; Río Fernández, Joaquín del; Sarriá Gandul, David; Manuel Lázaro, Antonio. LabVIEW : programación para sistemas de instrumentación. Madrid: Ibergarceta Publicaciones, 2011. ISBN 9788492812684.
- Riu Costa, Pere Joan; Rosell Ferrer, Javier; Ramos Castro, Juan. Sistemas de instrumentación [on line]. Barcelona: Edicions UPC, 1995 [Consultation: 28/04/2022]. Available on: <https://upcommons.upc.edu/handle/2099.3/36384>. ISBN 8476535791.