

SENSORS AND ELECTRONICS

1.1. Identification

University:	Universidad Politécnica de Valencia											
School:	Escuela Técnica Superior de Ingeniería del Diseño											
Course:	Sensors and Electronics											
ECTS:	5											
Semester:	<i>Winter</i>				X	<i>Summer</i>						
Category	<i>Fundamental course</i>				X	<i>Specialisation course</i>						
Module	<i>MFI</i>		<i>MFII</i>		<i>MFIII</i>	X	<i>MSI</i>		<i>MSII</i>		<i>MSIII</i>	
Teachers:	Eduardo Garcia											
Language:	<i>English</i>		<i>Italian</i>		<i>Swedish</i>		<i>Spanish</i>				X	

1.2. Learning-outcomes

- knowledge about the fundamentals of sensor and actuators.

1.3. Competencies

▪ General

- to have critical understanding of technical and scientific tools
- to work and manage teams
- communication skills (both written and oral)
- to work in an international context

▪ Specific

- to look for and determine interface characteristics between physical parameters and electronics circuits.

1.4. Contents

Sensors and their conditioning circuits: operations, characteristics, preparation of the signal and applications to the use of more common industrial sensors. Characterization of the signal and sources of noise. Techniques of isolation and elimination of interferences. Systems of acquisition based on digital processors.

1.5. Teaching Methodology

- Lecture sessions
- Practical sessions: “cooperative work” for solving problems
- laboratory sessions

1.6. Evaluation

- written exams
- oral evaluation of the problems solved by “cooperative work”
- oral evaluation of laboratory work

1.7. Bibliography

- Joseph J. Carr. "Sensors & Circuits: Sensors, Transducers, & Supporting Circuits For Electronic Instrumentation Measurement and Control". Prentice Hall.