[MRD102] SENSORS AND MEASUREMENTS

GENERAL INFORMATION

Studies	Master's Degree in ROBOTICS AND CONTROL SYSTEMS			**Subject**	?
Semester	1	**Course**	1	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2023	**Modality**	Face-to-face	**Language**	CASTELLANO/EUSKARA
Credits	3	**Hours/week**	0	**Total hours**	31 class hours + 44 non-class hours = **75 total hours**

PROFESSORS

MUXIKA OLASAGASTI, EÑAUT
ALONSO GOMEZ, ARRATE

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
ELECTRONIC TECHNOLOGY	*(No previous knowledge required)*

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
M1R215 - [!] *Obtener señales físicas a partir de sensores y diseñar el acondicionamiento adecuado para su transferencia a los sistemas de control tanto en contextos industriales como no industriales*	x			2,2
M1R223 - [!] *Capacidad de trabajar en equipos multidisciplinares y en un entorno multilingüe y de comunicar, tanto de forma oral como escrita, conocimientos, procedimientos, resultados e ideas relacionadas con los temas afines al máster*		x		0,2
M1R224 - [!] *Capacidad para ejercer su profesión con actitud cooperativa y participativa, y con responsabilidad social*		x		0,2
M1R226 - To apply the knowledge acquired and your problem-solving skills in new, little-known or changing environments within broader (or multidisciplinary) contexts related to your area of study		x		0,4
			Total:	3

KC: Knowledge or Content / SK: Skills / AB: Abilities

CONTENTS

* Introduction
* General characteristics of sensors
  - Theoretical foundations
  - Types of transducers
  - Signal conditioning and calibration
  - Sensor analysis and selection
* Sensor communications
  - Introduction to IoT: from devices to the Cloud
  - Communication concepts review
  - Review of sensor communication protocols
  - Wireless networks
* Practical case study of a smart sensor
  - Real case study

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Slides of the subject Moodle Platform Technical articles Topic related web quires	http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_lnk.pl?grupo=MASTERROBOTIKA11&ejecuta=25&_ST