

**1. General information****Course:** ADVANCED ELECTRONIC INSTRUMENTATION**Type:** ELECTIVE**Degree:** 360 - UNDERGRAD. IN INDUSTRIAL ELECTRONICS AND AUTOMAT. ENGINEERING (TO)**Center:** 303 - E.DE INGENIERÍA INDUSTRIAL Y AEROSPOACIAL DE TOLEDO**Year:** Sin asignar**Main language:** Spanish**Use of additional languages:****Web site:****Code:** 56529**ECTS credits:** 6**Academic year:** 2021-22**Group(s):** 40**Duration:** First semester**Second language:** English**English Friendly:** Y**Bilingual:** N**Lecturer:** JOSE MANUEL GOMEZ GARCIA - Group(s): 40

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2. Pre-Requisites

Not established

3. Justification in the curriculum, relation to other subjects and to the profession

Not established

4. Degree competences achieved in this course**Course competences**

Code	Description
A02	To know how to apply knowledge to work or vocation in a professional manner and possess the competences that are usually demonstrated by the formulation and defence of arguments and the resolution of problems in the field of study.
A04	To be able to transmit information, ideas, problems and solutions to a specialized audience.
A05	To have developed the learning skills necessary to undertake subsequent studies with a greater degree of autonomy.
A06	Command of a second foreign language at B1 level of the Common European Framework of Reference for Languages.
A07	Knowledge of Information Technology and Communication (ITC).
A08	Appropriate level of oral and written communication.
A09	Ethical and professional commitment.
A12	Knowledge of basic materials and technologies that assist the learning of new methods and theories and enable versatility to adapt to new situations.
A13	Ability to take the initiative to solve problems, take decisions, creativity, critical reasoning and ability to communicate and transmit knowledge, skills and abilities in Industrial Engineering and Automation.
A18	To have organization and planning skills used in businesses and other institutions and organizations.
A19	Ability to work in a multilingual and multidisciplinary environment.
H5	Design and construction of electronic instruments.

5. Objectives or Learning Outcomes**Course learning outcomes****Description**

Supplement basic and specific training oriented at a particular specialization of an open, multidisciplinary nature with a direct application to the professional field. Acquire knowledge and skills in the use of information tools that enable the student to better use the knowledge acquired. Widen these improvements through new applications autonomously.

Knowledge of the tools and techniques of design and manufacture of electronic instruments

Additional outcomes**6. Units / Contents****Unit 1:**

Unit 1.1

Unit 1.2

Unit 1.3

Unit 1.4

Unit 2:

Unit 2.1
Unit 2.2
Unit 2.3
Unit 3:
Unit 3.1
Unit 3.2
Unit 3.3
Unit 3.4
Unit 3.5
Unit 3.6
Unit 3.7
Unit 3.8
Unit 4:
Unit 4.1
Unit 4.2
Unit 4.3
Unit 4.4
Unit 4.5
Unit 4.6
Unit 5:
Unit 5.1
Unit 5.2
Unit 5.3

7. Activities, Units/Modules and Methodology							
Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	H5	0.9	22.5	N	-	
Problem solving and/or case studies [ON-SITE]	Project/Problem Based Learning (PBL)	A02 A04 A05 A06 A07 A08 A09 A12 A13 A18 A19 H5	0.3	7.5	N	-	
Laboratory practice or sessions [ON-SITE]	project-based learning	A02 A04 A05 A06 A07 A08 A09 A12 A13 A18 A19 H5	0.3	7.5	Y	Y	
Progress test [ON-SITE]	Assessment tests	A09 A13 H5	0.3	7.5	Y	Y	
Individual tutoring sessions [ON-SITE]	Combination of methods	A09 A12 H5	0.6	15	N	-	
Study and Exam Preparation [OFF-SITE]	Self-study	A07 A12 H5	3.6	90	N	-	
Total:			6	150			
Total credits of in-class work: 2.4			Total class time hours: 60				
Total credits of out of class work: 3.6			Total hours of out of class work: 90				

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System			
Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Laboratory sessions	0.00%	30.00%	
Final test	0.00%	40.00%	
Self Evaluation and Co-evaluation	0.00%	30.00%	
Total:	0.00%	100.00%	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	7.5
Laboratory practice or sessions [PRESENCIAL][project-based learning]	7.5
Progress test [PRESENCIAL][Assessment tests]	7.5
Individual tutoring sessions [PRESENCIAL][Combination of methods]	15
Study and Exam Preparation [AUTÓNOMA][Self-study]	90
Unit 1 (de 5):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4.5
Unit 2 (de 5):	

Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4.5
Unit 3 (de 5):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4.5
Unit 4 (de 5):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4.5
Unit 5 (de 5):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4.5
Global activity	
Activities	hours
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	7.5
Laboratory practice or sessions [PRESENCIAL][project-based learning]	7.5
Class Attendance (theory) [PRESENCIAL][Lectures]	22.5
Progress test [PRESENCIAL][Assessment tests]	7.5
Individual tutoring sessions [PRESENCIAL][Combination of methods]	15
Study and Exam Preparation [AUTÓNOMA][Self-study]	90
Total horas: 150	

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Antoni, Manuel	INSTRUMENTACIÓN VIRTUAL. ADQUISICIÓN, PROCESADO Y ANÁLISIS DE SEÑAL.	Ediciones UPC, S.L. 2004		8498801591, 97884988	2004	Libro de referencia de la asignatura
E. Soria	TRATAMIENTO DIGITAL DE SEÑALES. Problemas y ejercicios resueltos	Prentice Hall		8420535591	2003	Problemas resueltos con MatLab
JOSÉ RAFAEL LAJARA VIZCAÍNO	LAB VIEW ENTORNO DE PROGRAMACIÓN. LABVIEW 8.20	Marcombo		9788426714268	2012	Guía de programación y ejemplos prácticos