

SUBJECT TEACHING GUIDE

G278 - Graphic Representation Techniques

First Degree in Industrial Electronic Engineering and Automatic Control Systems

Academic year 2025-2026

1. IDENTIFYING DATA					
Degree	First Degree in Industrial Electronic Engineering and Automatic Control Systems			Type and Year	Core. Year 1
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Graphical Expression Basic Training Module				
Course unit title and code	G278 - Graphic Representation Techniques				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Knowledge Field	Industrial engineering, mechanical engineering, automation engineering, industrial organization engineering and navigation engineering				
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA GEOGRAFICA Y TECNICAS DE EXPRESION GRAFICA				
Name of lecturer	JOSE ENRIQUE CERON HOYOS				
E-mail	jose.ceron@unican.es				
Office	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 2. DESPACHO (S2005)				
Other lecturers	MARIA ESTHER VALLEJO LOBETE LUIS ANGEL SAIZ SAIZ ANGEL RIOZ CRESPO RAQUEL ARMESTO ALONSO				

4. OBJECTIVES

Represent parts and elements in a graphical document, using descriptive geometry, graphical projection and technical drawing standards.

Expose by a graphical, oral and written way ideas of design and interpretation of engineering drawings.

6. SUBJECT PROGRAM	
CONTENTS	
1	Metric and descriptive geometry. Isometric and Cavalier projection.
2	Metric and descriptive geometry. Projections of curves, surfaces and solids.
3	Technical and engineering drawings. CAD Systems.
4	Metric and descriptive geometry. Orthographic Projection. Topographic representation.

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
Classroom works and projects.	Work	No	Yes	10,00
22,50 % Orthographic Projection (descriptive geometry)	Written exam	No	Yes	22,50
22,50 % Topographical Representation	Written exam	No	Yes	22,50
45,00 % Technical Drawing	Written exam	No	Yes	45,00
TOTAL				100,00
Observations				
<p>Students who do not pass the continuous assessment (average of 5 in the partial tests), may make the final test, similar to the three partial test, in the extraordinary call.</p> <p>Online evaluation will be applied to these same works, practical laboratory exercises and written tests, in case it would be impossible to carry out the onsite evaluation because of a new health alert by COVID-19.</p>				
Observations for part-time students				
Part-time students have same evaluation criteria that full-time students.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

OCW Técnicas de Representación Gráfica
<https://ocw.unican.es/course/view.php?id=75>

Sist. de representación:

GEOMETRÍA DESCRIPTIVA. F. Izquierdo Asensi
 GEOMETRÍA DESCRIPTIVA. (Tomo 1 - 2) F.J. Rodriguez de Abajo.
 EJERCICIOS DE ... J.I.Alvaro
 EXPRESIÓN GRÁFICA Y DAO. EJERCICIOS. F. Fadón

Dibujo técnico:

Dibujo Técnico. Ediciones BACHMANN – FORBERG
 NORMALIZACIÓN DEL DIBUJO INDUSTRIAL. R. Villar del Fresno, R. García, J.L. Caro.
 MANUAL DE NORMAS UNE SOBRE DIBUJO. Ed. AENOR
 DIBUJO TÉCNICO. R. de Abajo y Alvarez. Ed. Donostiarra
 Manual of Engineering Drawing. Colin H Simmons. Dennis E Maguire. Elsevier 2004

D.A.O.

GRÁFICAS POR COMPUTADORA. Hearn y Baker.
<http://personales.unican.es/saizl>