

## SUBJECT TEACHING GUIDE

G1955 - Techniques of Graphic Expression

Degree in Civil Engineering

First Degree in Civil Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Civil Engineering First Degree in Civil Engineering			Type and Year	Core. Year 1 Core. Year 1
Faculty	School of civil Engineering				
Discipline	GRAPHIC EXPRESSION IN ENGINEERING				
Course unit title and code	G1955 - Techniques of Graphic Expression				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Knowledge Field					
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	CESAR ANTONIO OTERO GONZALEZ				
E-mail	cesar.otero@unican.es				
Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 2. DESPACHO PROFESORES (2034)				
Other lecturers	CRISTINA MANCHADO DEL VAL PEDRO LASTRA GONZALEZ				

#### 4. OBJECTIVES

1. Technical Drawing. Standards.
2. Descriptive Geometry
3. Surfaces commonly applied in civil engineering
4. CAD and parametric modelling systems
5. Layouts
6. 3D Modelling and representation systems

#### 6. SUBJECT PROGRAM

##### CONTENTS

1	<p>BLOCK 1. FREE HAND SKETCHING AND STANDARD TECHNICAL DRAWING Views, auxiliary views, perspective views, dimensioning, sections. CAD AND PARAMETRIC MODELLING Inventor Pro: sketches, 3D operations, features, working plans, layouts, annotations. Autocad (2D): entities, edition, layers, other properties, blocks, Xref, Model Space and Paper Space.</p>
2	<p>BLOCK 2. DESCRIPTIVE GEOMETRY AND 3D MODELLING Geometry of point, line and plan. Theorems on parallelism, perpendicularity and intersections. Distances and angles. Classification and modelling of surfaces. NURBS. Filters, SCO and coordinates in AutoCAD. Projections and representation of point, lines and planes in AutoCAD. Surfaces modelling. Solids modelling.</p>

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
BLOCK 1. Written exam (40%)	Written exam	No	Yes	40,00
BLOCK 2. Written exam (40%)	Written exam	No	Yes	40,00
BLOCK 1 & 2. Continuous Evaluation (20%)	Others	No	No	20,00
<b>TOTAL</b>				<b>100,00</b>

##### Observations

MOST IMPORTANT TO THIS REGARD: CONTACT WITH THE PROFESSOR IN CHARGE AT THE VERY BEGINNING OF THE COURSE OR, EVEN BETTER, BEFORE TO START THE ACADEMIC PERIOD IN THIS UNIVERSITY.

##### Observations for part-time students

PART TIME STUDENTS MUST FULLFILL THE SAME ACADEMIC CONDITIONS THAN FULL TIME ONES.  
IF NEEDED, ASK MORE DETAIL TO THE PROFESSOR IN CHARGE

#### 8. BIBLIOGRAPHY AND TEACHING MATERIALS

##### BASIC

Otero C, Lastra P, Arroyo B, Manchado C. Material docente de la asignatura G1955 "Técnicas de Representación Gráfica". 2024-25. MOODLE UC.

