



1. General information

Course: DESCRIPTIVE GEOMETRY

Type: BASIC

Degree: 345 - UNDERGRADUATE DEGREE PROGRAMME IN CIVIL ENGINEERING

Center: 603 - E.T.S. CIVIL ENGINEERS OF CR

Year: 1

Main language: Spanish

Use of additional languages:

Web site:

Code: 38302

ECTS credits: 6

Academic year: 2023-24

Group(s): 20

Duration: First semester

Second language: English

English Friendly: Y

Bilingual: N

Lecturer: ROCIO PORRAS SORIANO - Group(s): 20

Building/Office	Department	Phone number	Email	Office hours
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2. Pre-Requisites

Basic knowledge of geometry and trigonometry.

Basic skills in the use of computers for the further development of CAD tools.

RECOMENDATION: practice hand drawing.

Complete "Curso 0", in Campus Virtual.

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

Relationship with other subjects

The graphic concepts learned in this subject will be applied in other subjects such as Cartography (capacity for abstraction of reality, simplification of drawings), Ground Engineering (concepts of projection for representation of elements) and Projects in general (realization of projects and works management: ideation, sketch and representation). Spatial skills are essential tools for engineers during their training and also during their career.

Relationship with the profession

This subject provides spatial vision for the design of engineering projects, knowledge for its geometric definition and its location in the territory. These are indispensable for any designer and enable the graphic transmission of the design among all the agents involved in the design. In fact, a Civil Engineer is constantly handling with graphical information and standardized nature.

4. Degree competences achieved in this course

Course competences

Code	Description
CB05	Have developed the necessary learning abilities to carry on studying autonomously
CE01	Students can apply their knowledge in the practical solution of civil engineering problems, with capacity for the analysis and definition of the problem, the proposal of alternatives and their critical evaluation, choosing the optimal solution with technical arguments and with capacity of defense against third parties.
CE02	Students have the ability to broaden their knowledge and solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study. Self-study ability, to undertake further studies with a high degree of autonomy
CE05	Students have the capacity of spatial vision and knowledge of the techniques of visual representation, both by traditional methods of metric geometry and descriptive geometry, and by means of computer-aided design applications.
CE06	Students have a basic knowledge of the use and programming of computers, operating systems, databases and software with engineering application.
CG01	Students achieve general knowledge of Information and Communication Technologies (ICT).

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Students master the graphic means and techniques required for the representation of engineering projects.

Students can represent any object or surface in any representation system.

Spatial vision for the design of engineering works, knowledge to define their geometry and their location in the territory.

Capacity for abstraction of the real world, simplification of drawings and interpretation of plans and elevations.

6. Units / Contents

Unit 1: Graphic tools: means and techniques

Unit 2: Spatial vision: representation systems

Unit 3: Applied geometry: definition and design of elements

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]	Combination of methods	CE05	1.1	27.5	N	-	
Problem solving and/or case studies [ON-SITE]	Project/Problem Based Learning (PBL)	CB05	0.48	12	Y	N	
Computer room practice [ON-SITE]	Combination of methods	CE06 CG01	0.54	13.5	Y	Y	
Field work [ON-SITE]	Practical or hands-on activities	CE01 CE02	0.2	5	Y	Y	
Final test [ON-SITE]	Assessment tests	CB05 CE01 CE02 CE05 CE06 CG01	0.08	2	Y	Y	
Writing of reports or projects [OFF-SITE]	Project/Problem Based Learning (PBL)	CE01 CE02	1.68	42	Y	Y	
Other off-site activity [OFF-SITE]	Self-study	CE06 CG01	0.22	5.5	Y	Y	
Study and Exam Preparation [OFF-SITE]	Self-study	CE05	1.7	42.5	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
Final test	30.00%	35.00%	Final test based on the problems and cases resolved during the course. (N2)
Assessment of active participation	5.00%	0.00%	N3
Assessment of problem solving and/or case studies	65.00%	65.00%	Evaluation of the training processes to be carried out by individual or group resolution, as appropriate, of practical exercises. Two types of exercises, L exercises and P exercises. L exercises: Individual work during the course for C.E., to be delivered in

			ordinary call for NCE. P exercises: autonomous work, to be delivered during the course for CE and in ordinary call for NCE. Note N1 = 40% L + 60% P
Total:	100.00%	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).

Evaluation criteria for the final exam:

Continuous assessment:

Mark: 65% N1 + 30% N2 + 5% N3, mandatory minimum mark of 4 in the first two parts (N1 and N2).

In N1 the on-line participation will also be valued, as well as the realisation of tests on it (Part of P). At the final exam day the student can choose to recover, complete, improve or retouch them. In this case he/she must submit the original and the new one, as well as a brief explanation. At the beginning of the semester the exact number os practices as well as the calendar will be established.

It must be taken into account that:

- The maximum note that can be obtained in the recovery of a delivery is a 7.
- Delayed delivery of work with 0.5 daily points will be penalized, except in justified cases.
- Only one recovery per practice is allowed.
- If a practice has been done in class and the student has been absent, it is considered to have a 0, and can only opt for the recovery grade.
- All the recovery of practices will be upload before the final exam day.
- Each practice must be uploaded to the Moodle platform on the established date. The practices that are not in moodle will be assumed not done.

The details about content, extension and requirements of the practices will be indicated in virtual campus at the beginning of the semester.

In N3, in addition to participation, collaborative work in the classroom will be valued. As an example, if a student acts as a tutor of a partner, as long as the tutoring is justified and is informed at the beginning, that will be rewarded.

If a student is listed as "Not presented" in both calls, he will not have the option of being saved the evaluations of activities surpassed in the current academic year.

If there is any different criterion, by mistake or omission, between the guides in English or in Spanish, the rules in the Spanish guide prevail.

NOTE: All marks in this guide are about 10 points

Non-continuous evaluation:

Mark: 65% N1 + 35% N2, mandatory minimum mark of 5 in both parts (N1 and N2).

In N1the participation on-line in the page of the subject will also be valued (part of the P practices), as well as the realisation of online tests. At the end of the course, in the ordinary call, the student can choose to recover, complete, improve or retouch the practices. In such a case they must submit the original and the new one, as well as a brief explanation. At the beginning of the course the number of practices and their timing will be established.

If a student is listed as "Not presented" in both calls, he will not have the option of being saved the evaluations of activities surpassed in the current academic year.

Unless stated otherwise, continuous evaluation criteria will be applied to all students. Anyone choosing non-continuous assessment must notify it to the lecturer within the class period of the subject. The option is only available if the student's participation in evaluation activities (from the continuous assessment) has not reached 50% of the total evaluation for the subject. For the retake exam, the assessment type used for the final exam will remain valid.

In extraordinary call, each student would be in the same evaluation system (continuous or non-continuous) as in the ordinary call.

Specifications for the resit/retake exam:

Mark: 65% N1 + 30% N2 + 5% N3, mandatory minimum mark of 4 in the first two parts (N1 and N2).

It is only necessary to examine the parts under 4 (N1 and N2).

To recover N1, when is under 4, only fails practices can be re-done.

If a student is listed as "Not presented" in both calls, he will not have the option of being saved the evaluations of activities surpassed in the current academic year.

Specific particularities of Continuous Evaluation and Non-Continuous Evaluation are met.

Specifications for the second resit / retake exam:

Same than the others

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours
Unit 1 (de 3): Graphic tools: means and techniques	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Combination of methods]	7.5
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	4
Computer room practice [PRESENCIAL][Combination of methods]	4
Field work [PRESENCIAL][Practical or hands-on activities]	1
Final test [PRESENCIAL][Assessment tests]	1
Writing of reports or projects [AUTÓNOMA][Project/Problem Based Learning (PBL)]	10
Other off-site activity [AUTÓNOMA][Self-study]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	12
Group 20:	
Initial date: 02-09-2019	End date: 27-09-2019
Unit 2 (de 3): Spatial vision: representation systems	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Combination of methods]	14
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	8
Computer room practice [PRESENCIAL][Combination of methods]	6
Field work [PRESENCIAL][Practical or hands-on activities]	2
Final test [PRESENCIAL][Assessment tests]	1
Writing of reports or projects [AUTÓNOMA][Project/Problem Based Learning (PBL)]	12
Other off-site activity [AUTÓNOMA][Self-study]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	15
Group 20:	
Initial date: 30-09-2019	End date: 31-10-2019
Unit 3 (de 3): Applied geometry: definition and design of elements	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Combination of methods]	6
Computer room practice [PRESENCIAL][Combination of methods]	3.5
Field work [PRESENCIAL][Practical or hands-on activities]	2
Writing of reports or projects [AUTÓNOMA][Project/Problem Based Learning (PBL)]	20
Other off-site activity [AUTÓNOMA][Self-study]	1.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	15.5
Group 20:	
Initial date: 01-11-2019	End date: 29-11-2019
Global activity	
Activities	hours
Other off-site activity [AUTÓNOMA][Self-study]	5.5
Class Attendance (theory) [PRESENCIAL][Combination of methods]	27.5
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	12
Writing of reports or projects [AUTÓNOMA][Project/Problem Based Learning (PBL)]	42
Field work [PRESENCIAL][Practical or hands-on activities]	5

Computer room practice [PRESENCIAL][Combination of methods]	13.5
Final test [PRESENCIAL][Assessment tests]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	42.5
Total horas: 150	

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Javier Rodríguez de Abajo	Geometría descriptiva.Tomo I. Sistema Diédrico.					
Jesús Vileta	Dibujo Técnico de Ingeniería Y Geometría Descriptiva					
Cobos Gutiérrez, C.; Del Río, Ma Gloria.	Ejercicios de dibujo técnico I: resueltos y comentados.	Tébar Flores		8473601602	1996	