



Universitat de Lleida

# DEGREE CURRICULUM **TECHNICAL PROJECTS**

Coordination: RINCÓN VILLARREAL, LÍDIA

Academic year 2021-22

Subject's general information

<b>Subject name</b>	TECHNICAL PROJECTS			
<b>Code</b>	101427			
<b>Semester</b>	2nd Q(SEMESTER) CONTINUED EVALUATION			
<b>Typology</b>	<b>Degree</b>	<b>Course</b>	<b>Character</b>	<b>Modality</b>
	Bachelor's Degree in Architectural Technology and Building Construction	4	COMPULSORY	Attendance-based
<b>Course number of credits (ECTS)</b>	9			
<b>Type of activity, credits, and groups</b>	<b>Activity type</b>	PRAULA		TEORIA
	<b>Number of credits</b>	3.6		5.4
	<b>Number of groups</b>	1		1
<b>Coordination</b>	RINCÓN VILLARREAL, LÍDIA			
<b>Department</b>	COMPUTER SCIENCE AND INDUSTRIAL ENGINEERING			
<b>Teaching load distribution between lectures and independent student work</b>	1 ECTS=10 h of face-to-face class + 15h of autonomous work			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			
<b>Language</b>	Catalan			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
BURGUÉS SOLANES, JOSEP MARIA	josemaria.burgues@udl.cat	5,5	
RINCÓN VILLARREAL, LÍDIA	lidia.rincon@udl.cat	3,5	

## Subject's extra information

This subject consists in the development of a refurbishment project with a change of use of the building and applying sustainability criteria. The different knowledge acquired during the degree must be applied here to a practical case study.

This subject requires of a continuous work during the whole semestre to accomplish the required objectives.

## Learning objectives

- To write the documents of a building project correctly, both in terms of grammar and orthography.
- To use an appropriate technical language, both in written documents and in oral presentations.
- To present orally ideas and solutions in a structured and clear way.
- To correctly manage both the personal and team time to develop the established tasks and fulfil the objectives within the given period of time.
- To use correctly the computer tools to development of project and public presentations.
- To determine unknown values and to make realistic assumption of the constructive system based in the available information.
- To apply technical knowledge of construction, refurbishment and sustainability, accordingly to the project.

## Competences

### Strategic competences of UdL:

- **UdL1.** Appropriate skills in oral and written language.
- **UdL3.** Mastering ICT's.
- **UdL5.** Apply the gender perspective to the functions of the professional field.

### Cross-disciplinary competences of the degree:

- **EPS1.** Capacity to solve problems and prepare and defence arguments inside the area of studies.
- **EPS2.** Capacity to gather and interpret relevant data, within the area of study, to judge and think about relevant subjects of social, scientific and ethical nature.
- **EPS6.** Capacity of analysis and synthesis.
- **EPS7.** Capacity to work in situations with a lack of information and/or under pressure.
- **EPS8.** Capacity of planning and organizing the personal work.
- **EPS9.** Capacity for unidisciplinary and multidisciplinary teamwork.
- **EPS11.** Capacity to understand the needs of the user expressed in a no technical language.
- **EPS13.** Capacity to consider the socioeconomic context as well as the sustainability criteria in engineering solutions.

### Specific competences of the degree:

- **GEE35.** Capacity to apply advanced tools needed to compose the different parts of a technical project and its management.
- **GEE36.** Skills to write technical projects of building sites and constructions that do not require architectural projects such as projects of demolition and decoration.
- **GEE37.** Skills to write documents that are part of the executive project created in a multidisciplinary way.
- **GEE38.** Capacity to analysis executive projects and its use in the execution of works.
- **GEE39.** Knowledge of the roles and responsibilities of the agents that take part in the building process and his professional or business organisation. The administrative procedures, of management and processing.
- **GEE40.** Knowledge of the professional organization and the basic procedures in the field of building and promotion.

## Subject contents

### 1. Project Morphology

- 1.1 The office
- 1.2 The project
- 1.3 Competences of the Building Engineer
- 1.4 Project morphology
- 1.5 Professional office works
- 1.6 Project regulations

### 2. Building and Uses

- 2.1 Museum
- 2.2 Spa and gym

### 3. Refurbishment

- 3.1 General concepts
- 3.2 Applicable regulation and heritage

### 4. Sustainability

- 4.1 General concepts
- 4.2 Sustainable Construction Criteria
- 4.3 Energy savings and efficiency. CTE-HE Energy savings
- 4.4 Sustainable materials and optimization
- 4.5 Waste treatment and circular economy
- 4.6 Water consumption and saving
- 4.7 Health constrains

### 5. Application of the CTE

- 5.1 Regulatory framework
- 5.2 SE Structural Safety
- 5.3 SI Fire safety

5.4 SUA Security of use and accessibility

5.5 HR Noise protection

5.6 HS Sanitation

## Methodology

The subject is developed using the following methodologies:

- **Master class:** In master classes the contents are presented orally by the lecturer with no active participation of the students.
- **Project development:** Active learning methodology that fosters the learning based on the development of a project: idea, design, planning, development and evaluation of the project.

## Development plan

Week	Methodology	Content	Work presentations	Face-to-face/Autonomous work hours
1	Master class	Subject presentation Groups organization Project morphology		6/9
2	Master class Project development	Building and uses Workshop		6/9
3	Master class Project development	Building and uses		6/9
4	Master class Project development	Sustainability CTE Workshop		6/9
5	Oral presentation Master class Project development	CTE Workshop	Presentation 1 (08/03/2022)	6/9
6	Master class Project development	Sustainability CTE Workshop		6/9
7	Master class Project development	Sustainability Workshop		3/4.5
8	Master class Project development	Sustainability CTE Workshop		6/9



a student does not present one of both parts, this student will not get any score for the whole submission.

- In the 3rd submission of the project, the oral presentation will be the last day of class, while the document submission can be done until the day of the exam.

## Bibliography

### Recommended bibliography

- Preciado Barrera, Cándido. (1994). Oficina técnica: teoría y tecnología del proyecto. Cáceres: Universidad de Extremadura.
- Gómez Pompa, Pedro & Gómez Pérez, Mónica. (1994). Oficina técnica: proyectos, dirección y control de obras. Cáceres: Servicio de Publicaciones de la Universidad de Extremadura.
- Trueba Jainaga, J. Ignacio, Levenfeld González, Gustavo & Marco Gutierrez, J. Luis. (1991). Teoría de proyectos: morfología del proyecto. Madrid 6ª Edición.
- Sevilla López, J. Manuel. (2000). Manual para la redacción de proyectos de construcción en la administración pública. Madrid: CIE Inversiones Editoriales DOSSAT 2000, cop. 2000.
- CTE – Código Técnico de la Edificación, Ministerio de Vivienda, Gobierno de España, 2006.
- UNE 157001:2002. Criterios generales para la elaboración de proyectos.
- Castell, Albert & Cabeza, Luisa.F. Construcció Sostenible. Quaderns EPS.
- Neila González, F. Javier. Arquitectura bioclimática: un entorno sostenible.
- Berge, Bjørn. The Ecology of Building Materials, 2000. ISBN: 978-0-7506-5450-0.
- Cuchí, Albert. Arquitectura i sostenibilitat, 2005. ISBN: 84-8301-839-X.