



Universitat de Lleida

DEGREE CURRICULUM
PROJECT METHODOLOGY

Coordination: ALBAREDA SOTERAS, XAVIER

Academic year 2019-20

Subject's general information

Subject name	PROJECT METHODOLOGY			
Code	102500			
Semester	1st Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Bachelor's degree in Industrial Organization and Logistics Engineering	4	COMPULSORY	Attendance-based
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	PRAULA		TEORIA
	Number of credits	3		3
	Number of groups	2		1
Coordination	ALBAREDA SOTERAS, XAVIER			
Department	COMPUTER SCIENCE AND INDUSTRIAL ENGINEERING			
Teaching load distribution between lectures and independent student work	Lectures activities: 60 hours Independent study work: 90 hours			
Important information on data processing	Consult this link for more information.			
Language	Catalan			
Distribution of credits	3 Theory 3 Practice			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
ALBAREDA SOTERAS, XAVIER	xavier.albareda@udl.cat	9	

Learning objectives

Learning results:

- The students understand the reality of the profession of engineer, the competences and responsibilities in the development of the profession.
- The students understand the definition, structure and operation of technical offices
- The students start in the organization, planning, execution and management of projects.
- The students acquire knowledge about the different types of technical work that the engineer can perform and the methodology to carry it out.
- The students acquire knowledge about the different criteria for the elaboration of technical documents.
- The students acquire knowledge about the legislative and regulatory framework that affects the development of the profession, especially its own specialty.
- The students acquire notions about the work management tasks in the aspects of planning and management.
- The students write and interpret engineering technical documents: reports, studies and technical reports, valuations and engineering projects.
- The students design, calculate and graphically represent facilities, infrastructures and industrial buildings.
- The students realize and interpret engineering graphic documentation, diagrams, diagrams and plans in general.
- Application tools for the production of graphic documents and CAD technologies.

Competences

Basic

B02 That students know how to apply their knowledge to their work or vocation in a professional manner and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.

B03 That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.

B04 That students can transmit information, ideas, problems and solutions to a specialized and non-specialized public.

B05 That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

General competences

CG1. To conceptualize the drafting, signing and development of projects in the field of engineering in industrial organization, which have as their object, according to the specific technology training, the construction, reform,

repair, conservation, demolition, manufacture, installation, assembly or exploitation of : structures, mechanical equipment, energy facilities, electrical and electronic installations, industrial facilities and processes and manufacturing and automation processes.

CG2. To direct the activities subject of the engineering projects described in the previous section.

CG4. To solve problems with initiative, make decisions, creativity, critical reasoning and to communicate and transmit knowledge, skills and abilities in the field of Industrial Organization Engineering.

CG5. To carry out measurements, calculations, valuations, appraisals, surveys, studies, reports, work plans and other analogous work.

CG6. To implement specifications, regulations and mandatory rules.

CG7. To analyze and assess the social and environmental impact of technical solutions.

CG10. To work in a multilingual and multidisciplinary environment.

CG11. To understand and apply the necessary legislation in the exercise of the profession of Industrial Organization Engineer

Specific competences

CE18. To recognize the organizational structure and functions of a Project Office.

Transversal

CT3. To implement new technologies and technologies of information and communication.

CT4. To apply basic knowledge of entrepreneurship and professional environments.

CT5. To apply essential notions of scientific thinking.

Subject contents

Fundamental contents of the subject

Topic 1 - The engineer and the engineering

- Engineering as a workplace
- Engineering within the organization of a company
- Organization of an engineering company.
- Forms of engineering work.
- Engineering functions

Topic 2 - Profession: ethics and sustainability

- Professional attributes.
- Social responsibility
- Individual responsibility
- Code of ethics.

Theme 3 - The project process

- The project cycle

- Creative phase. Stages
- Constructive phase. Stages
- Exploitation phase. Stages
- Agents involved. Functions

Topic 4 - Technical documents in engineering. Overview

- Minutes
- Ratings.
- Certificates
- Reports, pre-projects and projects (see topic 6 and later)
- . Typology of each document. Structure, content, function and casuistry.

Topic 5 - Regulations

- Structure and hierarchy.
- Typology.
- Documentation search. Tools and resources

Topic 6 - The project in engineering

- Concept.
- Reports. previous studies
- Preliminary draft
- Types of projects and purpose

Topic 7 - The project as an executive document.

- Documentation of a project
- Structure and content.
- The executive function.
- Agents involved

Topic 8 - Memory and annexes to memory

- Function
- Content
- Structure and writing.
- . Drafting and presentation guidelines
- . Linkage with the rest of documents

Topic 9 - Plans

- Functions
- General characteristics

- Typology according to project
- Order and classification.
- . Content and presentation
- . Linkage with the rest of documents

Topic 10- Specification

- Structure
- General Terms and Conditions.
- Specification of Particular Conditions
- . Linkage with the rest of documents

Topic 11 - Budget

- Structure
- Measurements
- Table of unitary and decomposed prices
- . partial budgets
- PEM / PEC
- . Linkage with the rest of documents

Topic 12 - Executive planning

- . Workload.
- . Table of activities.
- . Time frame
- . Gantt diagram
- . Linkage with the rest of documents

Topic 13 - Environmental and energy impact.

- . Manufacturing energy impact
- . Environmental impact of implantation, demolition and restoration

Topic 14 - Constructive phase. The construction management

- The construction management. agents
- The Construction Director.
- Functions Attributions Obligations. responsibility
- Project management and project: follow-up, modifications and certifications
- . Rehearing act
- . Act of suspension

Methodology

- Master classes.
- Preparation and realization of evaluable activities in group.
- Face-to-face sessions of practical work, with learning based on the case method.
- Autonomous study work, carrying out exercises, research and information analysis.
- Face-to-face sessions of exhibition and defense of the work carried out.

Development plan

Week	methodology	Theme	classroom hours	autonomous work hours
1	Master class Problems	1 - The engineer and the engineering 2 - Profession: ethics and sustainability 3 - The project process	4	6
2	Master class Problems	4 - Technical documents in engineering. (1)	4	6
3	Master class Problems	...4 - Technical documents in engineering. (2)	4	6
4	Master class Problems	5 - Regulations	4	6
5	Master class Problems	6 - The project in engineering	4	6
6	Master class Problems	7 - The project as an executive document.	4	6
7	Master class Problems	8 - Memory and annexes to memory	4	6
8	Master class Problems	9 – Plans (1)	4	6
9	Master class Problems	...9 – Plans (2)	4	6
10	Master class Problems	10- Specifications	4	6
11	Master class Problems	11 - Budget	4	6
12	Master class Problems	12 - Executive planning	4	6
13	Master class Problems	13 - Environmental and energy impact.	4	6
14	Master class Problems	14 - Constructive phase. The construction management.	4	6
15	Tutorials		4	6

		TOTAL	60	90
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Evaluation

A continuous assessment model will be applied (> 90% attendance) in order to weigh autonomous work, individual work and team work the students

Report: 15%

Preliminary draft: 25%

Executives: 35%

Defense: 10%

Weekly deliveries: 15%

Students who do not opt for continuous assessment, will adjust to the official exam calendar, in addition to the presentation of the course work

1P Exam: 30%

2P exam: 30%

Course work: 40%

Bibliography

Basic:

Piquer Chanzá, José S. The project in engineering and architecture. 3rd ed. Barcelona: CEAC, 1990. ISBN 8432920061.

Heredia Scasso, R. de. Architecture and industrial urbanism: design and construction of plants, buildings and industrial estates.

2nd ed. Madrid: ETSII, 1981. ISBN 8474840171.

Another resources:

Regulations and industrial regulations.