



Universitat de Lleida

# DEGREE CURRICULUM **ENGINEERING PROJECTS**

Coordination: FERNÁNDEZ LÓPEZ, MARIA CRISTINA

Academic year 2020-21

## Subject's general information

<b>Subject name</b>	ENGINEERING PROJECTS			
<b>Code</b>	102442			
<b>Semester</b>	1st Q(SEMESTER) CONTINUED EVALUATION			
<b>Typology</b>	<b>Degree</b>	<b>Course</b>	<b>Character</b>	<b>Modality</b>
	Double degree: Bachelor's degree in Forest Engineering and Bachelor's degree in Nature Conservation	4	COMPULSORY	Attendance- based
	Bachelor's Degree in Forest Engineering	4	COMPULSORY	Attendance- based
	Master's Degree in Forestry Engineering		COMPLEMENTARY TRAINING	Attendance- based
<b>Course number of credits (ECTS)</b>	6			
<b>Type of activity, credits, and groups</b>	<b>Activity type</b>	PRAULA		TEORIA
	<b>Number of credits</b>	3.5		2.5
	<b>Number of groups</b>	1		1
<b>Coordination</b>	FERNÁNDEZ LÓPEZ, MARIA CRISTINA			
<b>Department</b>	AGRICULTURAL AND FOREST ENGINEERING			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			
<b>Language</b>	Spanish			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
FERNÁNDEZ LÓPEZ, MARIA CRISTINA	cristina.fernandez@udl.cat	6	

## Learning objectives

The student who exceeds the subject has to know:

- 1.-The scope of your professional work and the agents involved
2. - The technical and administrative regulations regarding the preparation and contracting of projects as well as the concrete responsibilities of the parties involved.
3. - The contents of the document Engineering Project
4. - The methodology and the tools that are applied in the different phases of the project

And you have to be able to

5. - Analyze concrete situations, identify problems or needs, find solutions and make decisions.
6. - Define and justify the price of work units
7. - Apply techniques and tools to plan and decide
8. - Develop and interpret an engineering project

In summary, the objective is to equip students with the knowledge, techniques, tools, skills and abilities necessary to be able to effectively exercise their professional activity in the execution of a technical engineering project, both in the design and execution phases .

## Competences

CB1. That the students have demonstrated to possess and understand knowledge in an area of study that begins at the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of your field of study.

CB2. That the students know how to apply their knowledge to their work or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.

CB3. That students have the ability to collect and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant issues of a social, scientific or ethical nature.

CB4. That students can transmit information, ideas, problems and solutions to both a specialized and non-specialized audience.

CB5. That the students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

CG9. Knowledge of hydraulics, construction, electrification, forest roads, machinery and mechanization necessary both for the management of forest systems and for their conservation.

CG13. Ability to design, direct, prepare, implement and interpret projects and plans, as well as to write technical reports, recognition reports, evaluations, expert opinions and appraisals.

Ability to know, understand and use the principles of:

CEMC6. Topography, Geographic Information Systems and Remote Sensing

CEMC8. Forest electrotechnology and electrification

CEMC9. Forest machinery and mechanization

CEMC17. Project methodology, organization and management

## Subject contents

THEORETICAL TOPIC

Theme 1: The forest technical engineer. Definitions. Attributions, competencies and professional framework

Theme 2: The project. Introduction. The project of Engineering, The classic project, The project according to the norm UNE 157001. The project in the CTE. The project in contracting with the Public Administration

Topic 3: Project Documents. The memory. Attachments, Drawings. Specifications. Budget. Health and safety studies. Other special documents.

Topic 4: The Public Sector Contracts Law. Contracts of Work: General, Procedures of adjudication, Specifications of administrative conditions, Execution, Modification, Extinction. Project Services Contracts

Unit 5: Programming and control of a work. Construction management

## Practical activities

PRAC 1: Documentary research on professional activity

PRAC 2: Definition and calculation of work unit prices

PRAC 3: Preparation of specifications of technical conditions per unit of work

PRAC 4: Making Simple Budgets

PRAC 5 Participation in public works contracts

PRAC 6: Temporary programming of the different works in a work

PRAC 7: Case study. Project writing

## Methodology

Type of activity

TEO: Theory; PRO: Problems and cases SEM: Seminar;

INF: Computer science; CAM: Field; VIS: Visits;

ACD: Targeted activity

Type of activity	Short description of the activity (Title of topic or practice)	Dedication (hours)	week	Objective
TEO	TEMA I:	2	1	1,2
SEM	PRAC I:	1	1	1,2
TEO	TEMA2:	4	2,3	2,3,4,8
SEM	PRAC 1b:	2	3	2,3,4,6,8
TEO	TEMA3	4	4,5,6,7	3,4,5,6,7,
SEM	PRAC 3:	1	6	3,4,5,6,7,
SEM	PRAC 7	5	4,5,6,	3,4,5,6,7,
PRO	PRAC 4:	2	7	6
TEO	TEMA 4	5	8,9,10	3,4,5,6,7,8
PRO	PRAC 5:	3	9,10	3,4,5,6,7,8
SEM	PRAC 7:	5	10,11,12,13	3,4,5,6,7,8
ACD	PRAC 7:	2	11	6
ACD	PRAC 7:	2	12,13	3,4,5,6,7,8
TEO	TEMA5:	5	14,15,16	5,6,7,8
PRO	PRAC6: PRAC 7:	7	17,18,19,20	3,4,5,6,7,8

SEM	PRAC 7:	6	16,17,18,19,20	3,4,5,6,7,8
CAM	PRAC 7:	2	15	6
ACD	PRAC7:Development of the application of the course: Preliminary study. Basic project. Detail project.	3	16,17	3,4,5,6,7,8

## Evaluation

The evaluation is continuous so that small tests are done in class on what was treated in that day and earlier. Some are individual and others in group and account for 70% of the final grade. Each one has a value proportional to the content, between 5 and 20% of the final grade. They are carried out under the tutelage of the teacher. The remaining 30% of the final grade corresponds to the development of a case study carried out in groups of 2 or 3 students for 2 months and consists of the drafting of a small engineering project in the ETSEA or another one by sanitary problems

## Bibliography

### Basic bibliography

NORMA UNE 157001. 2014. Criterios generales para la elaboración de proyectos.

MORILLA ABAD I. 1998. Guía metodológica y práctica para la realización de proyectos.

BRUSOLA SIMÓN F. 1999. Oficina técnica y proyectos.

APUNTES DE OFICINA TÉCNICA ETIF UPM

### Complementary bibliography

CÓDIGO TÉCNICO DE LA EDIFICACIÓN 2006

GÓMEZ SENENT E. 1992. Las fases del proyecto y su metodología.

LLORCA MARQUÉS M. 1990. El proyecto y sus fases.

MORALES MESA J.I. 2004. Prevención de riesgos laborales en el trabajo forestal. Seguridad en Incendios forestales.

ASOCIACIÓN Y COLEGIO DE INGENIEROS DE MONTES 2004. Cuadro de precios unitarios de la actividad forestal.

LEY DE CONTRATOS DE LAS ADMINISTRACIONES PÚBLICAS Y SU REGLAMENTO GENERAL