



Universitat de Lleida

DEGREE CURRICULUM
**ENVIRONMENTAL
MANAGEMENT**

Coordination: CHEMISANA VILLEGAS, DANIEL

Academic year 2023-24

Subject's general information

Subject name	ENVIRONMENTAL MANAGEMENT			
Code	103113			
Semester	1st Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Master's Degree in Leather Engineering	1	COMPULSORY	Blended learning
Course number of credits (ECTS)	3			
Type of activity, credits, and groups	Only examination			
Coordination	CHEMISANA VILLEGAS, DANIEL			
Department	ENVIRONMENT AND SOIL SCIENCES AND CHEMISTRY			
Teaching load distribution between lectures and independent student work	Classroom lessons 36 hours Autonomous work 41 hours			
Important information on data processing	Consult this link for more information.			
Language	Catalan Spanish English			
Distribution of credits	Theory credits: 2,5 ECTS Practica credits: 0,5 ECTS			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
CHEMISANA VILLEGAS, DANIEL	daniel.chemisana@udl.cat	0	

Learning objectives

At the end of the course, the student must be able to:

- Recognize the environmental impact of each of the operations in the beamhouse and tanning phases, the nature of the waste generated in the process and its basic management.
- Know the problem of the use of water in the tanning industry and plan its management.
- Identify the general pollution parameters, the most common limits of discharge and their influence on the environment.
- Analyse the pollutant loads of the different tannery processes and plan the reduction methods.
- Know and manage wastewater treatment methods.
- Interpret the legal aspects, in anticipation of procedures and business obligations.
- Know the regulations and basic environmental legislation regarding industrial waste, especially those of the tanning sector, both at the level of solid waste, residual effluents, and emissions to the pollutant atmosphere.

Competences

Basic

B06 To possess and understand knowledge that provides a basis or opportunity to be original in the development and / or application of ideas, often in a research context.

B10 That students have the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.

General

CG3. To investigate, develop and innovate.

CG4. To direct, plan and supervise multidisciplinary teams.

Specific

CE1. To analyze the different raw materials, intermediate and final products in the leather manufacturing process.

CE3. To apply basic knowledge and applications of environmental technologies and sustainability in the field of leather engineering.

CE10. To design strategic planning and apply it to production systems, quality and environmental management in the field of leather engineering.

Subject contents

- Water management in the industry.
- Parameters and legislation.
- Polluting loads of different processes

- Decrease of loads for modification of processes and specific treatments.
- Sewage treatment:
 - Pretreatments
 - Homogenization and primary treatments
 - Secondary treatments

Methodology

This course only will have exams but no classes

Development plan

Week	Methodology	Temary	On-site hours	Hours of autonomous work
1-8	Master class / exercises	Lessons 1 a 3	16	22
9	Written test (E1))	Lessons 1 a 3	2	
10-15	Master class / exercises	Lessons 4-5	14	21
10-15	Visits to sewage treatment plant		2	
16	Written test (E2)	Lessons 4-5	2	

Evaluation

In the middle of the semester there will be an eliminatory partial test (E1) that corresponds to the matter taught during this first part. At the end of the semester there will be another test (E2) also eliminatory with the rest of the contents. In addition there will be a note of exercises or group/individual work (P), and a note of assessment of the teacher (A).

The final grade will be:

$$FG = 0.65 ((E1 + E2) / 2) + 0.30 P + 0.05A$$

Those who have not passed the subject at the first opportunity may take a final recovery exam (ER) that will include the exams not passed. The final grade of the subject will be calculated using the same formula,

Tests E1, E2, and ER will be carried out on the dates set by the Studies Departement

Bibliography

- Teacher notes
- Adzet, J.M. (coord.). *Tecnología del Cuero*. Barcelona: Cíceros, 1985
- Salmerón, J. *Generación y tratamiento de residuos en la industria del curtido de Valencia*. Valencia: CEV, 1995
- Metcalf & Eddy. *Ingeniería sanitaria : tratamiento, evacuación y reutilización de aguas residuales*. 3a ed. Barcelona: Labor, 1994. ISBN 84-335-6421