INTERNATIONAL JOINT MASTER IN INNOVATIVE LEATHER TECHNOLOGY

ENVIRONMENTAL MANAGEMENT

COORDINATION

CHEMISANA VILLEGAS, DANIEL

ACADEMIC YEAR

2023-2025

SUBJECT GENERAL INFORMATION

Subject name	**ENVIRONMENTAL MANAGEMENT**			
Code	*1SEM-SUB3*			
Typology	*1st semester. Continued evaluation.*			
Course number of credits (ECTS)	*6*			
Type of activity, credits, and groups	*Degree*	*Course*	*Character*	*Modality*
	Joint Master Degree in Leather Technology	*1*	*Compulsory*	*Blended learning*
Coordination	*CHEMISANA VILLEGAS, DANIEL*			
University	*UdL*			
Language	*English*			

LEARNING OBJECTIVES

1. 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.

2. Know the problem of the use of water in the tanning industry and plan its management.

3. Identify the general pollution parameters, the most common limits of discharge and their influence on the environment.

4. Analyse the pollutant loads of the different tannery processes and plan the reduction methods. Know and manage wastewater treatment methods.

5. Interpret the legal aspects, in anticipation of procedures and business obligations.

6. 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.

LEARNING OUTCOMES

Basic

CB6 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.

CB10 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 Research, develop and innovate.

CG4 Lead, plan and supervise multidisciplinary teams.

Specific

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

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

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

SUBJECT CONTENT

1. Water management in the industry.
2. Parameters and legislation.
3. Polluting loads of different processes
4. Decrease of loads for modification of processes and specific treatments.
5. Sewage treatment:

   - Pre-treatments

   - Homogenization and primary treatments

   - Secondary treatments

METHODOLOGY

Theory in classes of large groups: Expositive classes by the teacher, with the explanation of concepts, materials and the work plan.

For each module, exercises will be proposed individually and autonomously, which will be evaluated by the teacher.

Preparation of a topic, with presentation and oral and written communication. Visits to sewage treatment plant.

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 (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

In order to be able to apply, a minimum of 3 is needed in the eliminatory partial exams. 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 Department.

Exercises	30%
Teacher assessment	5%
Exam E1	
	65%
Exam E2	