



UTILIZATION OF COLLAGENOUS MATERIALS

COORDINATION
ZENGİN, GÖKHAN

ACADEMIC YEAR
2023-2025

SUBJECT GENERAL INFORMATION

Subject name	UTILIZATION OF COLLAGENOUS MATERIALS			
Code	4SEM-GC-SUB3			
Typology	4th semester. Continued evaluation.			
Course number of credits (ECTS)	3			
Type of activity, credits, and groups	<i>Degree</i>	<i>Course</i>	<i>Character</i>	<i>Modality</i>
	<i>Joint Master Degree in Leather Technology</i>	<i>1</i>	<i>Compulsory</i>	<i>Blended learning</i>
Coordination	ZENGİN, GÖKHAN			
University	EGE			
Language	English			

LEARNING OBJECTIVES

1. Understand the obtaining mechanism of collagen-based proteins.
2. Understand the modification collagen-based proteins.
3. Explain the differences between collagen and collagen based products.
4. Explain the production of gelatine-based materials.
5. Explain the production of hydrolysate-based materials.

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

CG1. Appropriately apply mathematical, analytical, scientific, instrumental, technological and management aspects.

CG3. Research, develop and innovate.

Specific

CE8. Apply the main mechanisms of organic reactions of macromolecules and polymers to their synthesis and application in industry

CE9. Project, calculate and design products, processes, facilities and plants, related to the field of leather engineering.

SUBJECT CONTENT

1. BASIC CONCEPTS RELATED TO COLLAGEN

L1.1 Basic concepts related to collagen, Collagen-based proteins

L1.2 Tanned collagen-based proteins, Untanned collagen-based proteins

2. GELATIN TYPES, MODIFICATION OF GELATIN

L2.1 Gelatine Type A, Gelatine Type B

L2.2 Modification of gelatine

L2.3 Solid waste from leather production of gelatine

L2.4 Modification of gelatine obtained from leather waste

3. COLLAGEN HYDROLYSATE

L3.1 Collagen hydrolysate

L3.2 Hydrolysate obtained from tanned leather solid waste

4. MODIFICATION OF COLLAGEN HYDROLYSATE

L4.1 Modification of hydrolysate obtained from tanned solid leather waste

L4.2 Hydrolysate obtained from untanned solid leather

L4.3 Modification of hydrolysate obtained from untanned solid leather waste

L4.4 Management of hydrolysate

METHODOLOGY

THEORY CLASSES

Expository lectures: by the teacher, with the explanation of concepts, materials and work plan.

Support material: Course notes and relevant bibliography.

EXERCISES AND SELFSTUDY

General description: Individual exercises, self-learning and individual study. Support material: Course notes and relevant bibliography.

Deliverable: Exercises to deliver at the end of every unit.

EVALUATION

Exercises	40%
-----------	-----

Exercises	60%
-----------	-----