

COURSE SYLLABUS

University	UNIVERSITY OF ORADEA
Faculty	FACULTY OF ENERGY ENGINEERING AND INDUSTRIAL MANAGEMENT
Study program*	MCP

I. Course Name: Eco Textile Materials

II. Course Details

No of hours/week						
Code	Semester	Credits	Lecture	Seminar	Laboratory	Project
IEMI-0445	2	4	1	-	-	1

III. Course coordinator (title, name, surname, e-mail): Ș.I.dr.ing.Liliana Doble, liadoble@yahoo.com

IV. Course objectives

The discipline is aimed at I master year students, and its main objective is to study the fundamental principles of eco textile materials and to acquire basic knowledge regarding sustainable fibers, yarns, and textile products.

Understanding and appropriating the basic notions specific to ecological materials and their impact on the environment and the textile industry.

Promoting a value system based on sustainability, responsibility, and innovation, for the optimal and creative use of eco materials in textile applications, through understanding material properties and their integration into fashion and technical design.

V. Course content	No. of hours
V.1. Lecture (chapters/subchapters and paragraphs)	
1. Introduction to eco-textile materials, general characteristics, and development directions in the textile industry	2
2. Ecological plant-based natural fibers – organic cotton, linen, hemp, and other plant fibers	2
3. Ecological protein-based natural fibers – organic wool, organic silk, protein alternatives, and other protein fibers	2
4. Innovative fibers from renewable sources – lyocell, modal, eucalyptus, other cellulosic fibers, and other fibers	2
5. Biosynthetic fibers and biopolymers – PLA, PHA, fibers based on sugars, starch, or other plant resources	2
6. Eco yarns and their impact on the textile industry	2
7. Applications in fashion and apparel design, trends, and collections based on eco materials	2
V.2. Laboratory:	
1. Comparative analysis of ecological fibers	2
2. Applications in fashion and apparel design	2
3. Eco materials. The connection between sustainability, creativity, and functionality. Proposal of a conceptual mini-collection	4
4. Fashion trends based on smart textile materials	4
5. Lecture-project	2

VI. Bibliography

1. Ispir M., (2001), Studiul desenului și elemente de antropologie artistică, Junimea, Iași ;
2. Mendelowitz D., Wakeham D, (1993), A guide to drawing, Harcourt College Publisher ;
3. Prémont R. M., (1999), Desenul, Teora, București, (1998)
4. Dicționar de artă – forme, tehnici, stiluri artistice, Editura Meridiane, București, (1998).

VII. Grading criteria

Activities	Assesment	% of final grade
Exam	Written exam: 1. Requirements in order to get the minimum grade for passing the exam: correct answer to three of the questions of the written knowledge assessment test	80%
Seminar/Laboratory/Project	100% presence at the corses.	20%

VIII. Learning outcomes:

The discipline “**Eco Textile Materials**” is intended to broaden the horizon of knowledge of future graduates, and the notions and competencies acquired will contribute to a deeper understanding of sustainable materials and their role in the modern textile industry.

After studying this discipline, students will develop their ability to analyze, select, and apply ecological materials in textile products, with respect to environmental protection, innovation, and functionality. They will be able to understand the relationship between sustainability, design, and performance, and to integrate eco-materials into creative and technical textile projects.

- General knowledge of eco textile materials;
- Capacity for analysis and synthesis of sustainable materials;
- Capacity for critical evaluation of environmental impact;
- Acquiring practical and interactive working skills;
- The ability to translate theoretical knowledge into sustainable textile applications;
- Ability to work independently;
- Creativity and responsibility in the use of eco materials.

Course coordinator,
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