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Basic concepts on Ecodesign

Unit 0: Course presentation

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With this unit, the student will be able to:

- Understand the general concepts of Ecodesign
- Know the benefits of Ecodesign in the social and economic concepts.



0.1 Summary of course units

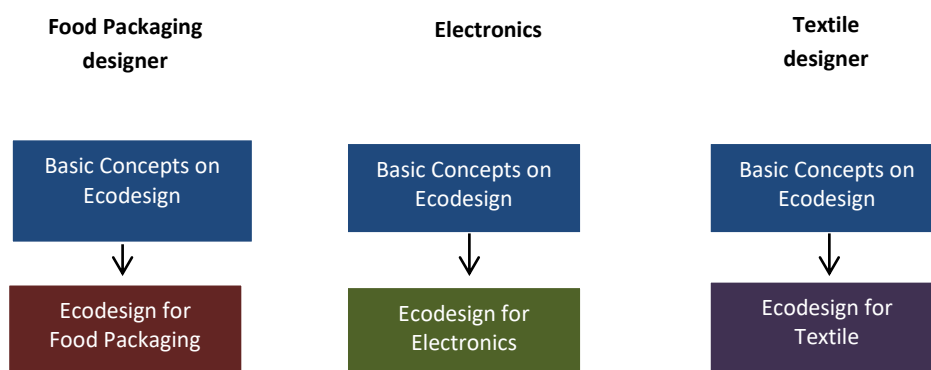
Integration of Ecodesign in the internal process of product development, not only shows its environmental sensitivity, but also increases their competitiveness, having better designed products, better finished and a clear differentiating factor relative to other companies.

This course is aimed at designers from three different sectors: food packaging, electronic product and textile products, to train them to integrate the Ecodesign in the companies.

The course consists of four modules, one general and three specific for each sector:

- Ecodesign basic concepts .
- Ecodesign in food packaging sector.
- Ecodesign in electronic products.
- Ecodesign in the textile sector.

The student must complete the basic module concepts and the specific module of the sector that proceeds or wants to be trained.



The module "Basic Concepts on Ecodesign" module consists of thirteen "Training Units" that address the main issues of Ecodesign, will allow students get a basic overview of Ecodesign and applications.

The training units are:



Unit	Title
1	INTRODUCTION TO ECODESIGN
2	TRADITIONAL DESIGN AGAINST ECODESIGN
3	EUROPEAN LEGAL FRAMEWORK ON ENVIRONMENT AND ECODESIGN
4	ANALYSIS AND COST OF LIFE CYCLE
5	ECODESIGN PRINCIPLES
6	ENVIRONMENTAL ASPECTS OF THE COMPANY
7	IMPLEMENTING ECODESIGN
8	ENVIRONMENTAL MANAGEMENT
9	ECODESIGN IN THE ENVIRONMENTAL MANAGEMENT
10	INTRODUCTION TO ECO-LABELING. COMMUNICATION
11	ENVIRONMENTAL PRODUCT DECLARATION. COMMUNICATION
12	ECODESIGN PRACTICAL CASES
13	FINAL COURSE REVIEW

0.2 Life Cycle concept

0.2.1 General aspects

All training units pursue that the student can understand and obtain a global vision of Ecodesign and the possibilities of utilization of the results obtained in Ecodesign, for the knowledge of the company and the sellers, consumers and society in general.

Before applying the methodology to incorporate the Ecodesign product, firstly you must understand the basic concepts of it, support tools to carry it out, environmental aspects to think about where you can influence to create a more environmentally and friendly product or improve an existing one. Knowledges that help to understand more advanced units in which the technical information content is more detailed on the matter in question.

On the other hand, it is also very important to know the legal and regulatory framework of Ecodesign. There are standardised methods for quantification and method of analysis or evaluation of the environmental impact of materials, processes product manufacturing... such as "Life Cycle Assessment" (LCA) of a product, and specific regulations to incorporate Ecodesign to the design process, the ISO 14006 standard¹. Applying appropriate regulations, we can compare the result of Ecodesigned product with other own choices, or against a third-party product.

It is important the knowledge of environmental communication tools of the product, the eco-labels, such as the Environmental Product Declaration (EPD).

¹UNE-EN ISO 14006: 2011. Environmental management systems. Guidelines for incorporating ecodesign.



Finally, there will be practical cases of Ecodesign in several sectors.

For this reason, the study is proposed by thematic groups, in a consecutive way. All "Units" are complementary to each other, for an understanding of the practice of Ecodesign, the European Application Framework, the principles of Ecodesign, its methods, to communicate that environmental criteria have been taken into account in product design, the keys of Ecodesign, including practical cases.

Thematic groups and units involved are:

Thematic Groups	Unit	Title
I Basic preliminary information	1	INTRODUCTION TO ECODESIGN
	2	TRADITIONAL DESIGN AGAINST ECODESIGN
	3	EUROPEAN LEGAL FRAMEWORK ON ENVIRONMENT AND ECODESIGN
II Basic principles of ECODESIGN	4	ANALYSIS AND COST OF LIFE CYCLE
	5	ECODESIGN PRINCIPLES
	6	ENVIRONMENTAL ASPECTS OF THE COMPANY
III Application of methodologies	7	IMPLEMENTING ECODESIGN
	8	ENVIRONMENTAL MANAGEMENT
	9	ECODESIGN IN THE ENVIRONMENTAL MANAGEMENT
IV Environmental Marketing	10	INTRODUCTION TO ECO-LABELING. COMMUNICATION
	11	ENVIRONMENTAL PRODUCT DECLARATION. COMMUNICATION
V Practical case and key summary of ECODESIGN	12	ECODESIGN PRACTICAL CASES
	13	FINAL REVIEW COURSE

COURSE METHODOLOGY

The training material available to the students is:

- ✓ Introductory video. Presentation of the topic in study.
- ✓ Theory. Theoretical text of the content unit.
- ✓ Presentation. Additional document information with key points of the unit.
- ✓ Video Unit. Graphic document with additional information regards to the other ones presented in the unit.

The student must perform in each training unit:

- ✓ Comprehension exercise. Exercise to verificate the comprehension.
- ✓ Conclusion exercise (test unit). Testing exercise for key points learned.



0.2.2 Content and objectives of thematic group I: Basic preliminary information

CONTENT OF THEMATIC GROUP I

This group consists of the following "Units"

UNITS	
Unit	Title
1	INTRODUCTION TO ECODESIGN
2	TRADITIONAL DESIGN AGAINST ECODESIGN
3	EUROPEAN LEGAL FRAMEWORK ON ENVIRONMENT AND ECODESIGN

Training material for units 1, 2 and 3

Training material	Unit 1	Unit 2	Unit 3
Introductory video	Introduction to Ecodesign	Traditional design against Ecodesign	European legal framework on environment and Ecodesign
Theory			
Presentation			
Additional video	-	State of the art of Ecodesign	Searching for applicable legislation and regulations

OBJECTIVES FOR THEMATIC GROUP I

Overview of:

- *Ecodesign, to understand what is it and what can provide to the company. Its evolution over time, and current status.*
- *EUROPEAN REGULATORY FRAMEWORK, environment in general and in particular for Ecodesign.*



0.2.3 Content and objectives of thematic group II: Basic principles of Ecodesign

CONTENT OF THEMATIC GROUP II

This group consists of the following "Units"

UNITS	
Unit	Title
4	ANALYSIS AND COST OF LIFE CYCLE
5	ECODESIGN PRINCIPLES
6	ENVIRONMENTAL ASPECTS OF THE COMPANY

Training material for units 4, 5 and 6

Training material	Unit 4	Unit 5	Unit 6
Introductory video	Analysis and cost of life cycle	Ecodesign principles	Environmental aspects of the company
Theory			
Presentation			
Additional video	LCA of a product	Product quality test Laboratory-CETEM	Environmental aspects and impacts

OBJECTIVES FOR THEMATIC GROUP II

Overview of:

- *The base of Ecodesign: the life-cycle assessment.*
- *Life-cycle costs of a product.*
- *The main factors that influence Ecodesign, will allow to identify where is possible to intervene to improve the environmental performance of a product.*
- *Environmental aspects of a company, to know what activities of the processes affect the environment.*



0.2.4 Content and objectives of thematic group III: Application of Methodologies.

CONTENT OF THEMATIC GROUP III

This group consists of the following "Units"

UNITS	
Unit	Title
7	IMPLEMENTING ECODESIGN
8	ENVIRONMENTAL MANAGEMENT
9	ECODESIGN IN THE ENVIRONMENTAL MANAGEMENT

Training material for units 7, 8 and 9

Training material	Unit 7	Unit 8	Unit 9
Introductory video	Implementing Ecodesign	Environmental management	Ecodesign in the environmental management
Theory			
Presentation			
Additional video	Environmental Strategy in organizations	Environmental Actions (PDCA)	Ecodesign certification

OBJECTIVES FOR THEMATIC GROUP III:

Overview of:

- *How to face with the design and development of a new product, and know all stages of Ecodesign.*
- *To know the general principles of the Certifications of Quality and Environment for companies (ISO9001, ISO14001 and EMAS), among others, process management, the identification of environmental aspects, legal requirements, etc., to:*
 - *Understand the Ecodesign Certification "ISO 14006", regulation that incorporates the design process to the environmental management of the company.*



0.2.5 Content and objectives of thematic group IV: Environmental Marketing.

CONTENT OF THEMATIC GROUP IV

This group consists of the following "Units"

UNITS	
Unit	Title
10	INTRODUCTION TO ECO-LABELING. COMMUNICATION
11	ENVIRONMENTAL PRODUCT DECLARATION. COMMUNICATION

Training material for units 10 and 11

Training material	Unit 10	Unit 11
Introductory video	INTRODUCTION TO ECO-LABELING. COMMUNICATION	ENVIRONMENTAL PRODUCT DECLARATION. COMMUNICATION
Theory		
Presentation	EPD Systems	Carbon footprint
Additional video		

OBJECTIVES FOR THEMATIC GROUP IV

Overview of:

- *The communication tools Ecodesign: ECO-LABELS.*
- *Knowing in particular, some eco-labels most used, certified eco-labels by accredited bodies. Among others:*
Carbon FootPrint and the Environmental Product Declaration (EPD).

0.2.6 Content and objectives of thematic group V: Practical cases and Key summary of Ecodesign.

CONTENT OF THEMATIC GROUP V

This group consists of the following "Units"

UNITS	
Unit	Title
12	Ecodesign PRACTICAL CASES
13	FINAL COURSE REVIEW



Training material for units 12 and 13

Training material	Unit 12	Unit 13
Introductory video	ECODESIGN PRACTICAL CASES	FINAL REVIEW COURSE
Theory		
Presentation		
Additional video	Interviews with companies that follow principles of Ecodesign	Ecodesign summary

OBJECTIVES FOR THEMATIC GROUP V

Overview of:

- *Real applications of Ecodesign in products designed belong those principles.*
- *Access to business experiences which explain their projects.*
- *Finally, a summary of the key concepts learned in the course.*
- *Real applications of Ecodesign products designed under those principles.*

