



Module: Eco Design Introduction

Brief explanation:

Eco design can be explained as an integral project activity in which the focus is on the designer/engineer that by making decisions for design is mainly led by the consequences on the environment, taking into consideration all phases of the life cycle: from extraction of raw materials to the moment of removal of the product.

Through the usage of eco-design, it can limit the influence of the product on the environment, for the overall product lifecycle. The practical eco-design has a goal of improving the product to determine the life cycle for saving on energy, waste, radiation and toxins. Still, the sustainable design of products must include concepts for ecological services, where connected products are used, there is also lease of space/ambience and sharing, and the ethical and social issues that appear in the process of sustainable design must not be neglected.

Through the module “Eco design”, the basic types of knowledge get closer together: terms and principles of eco design, analysis of the lifecycle of materials and their influence on the environment, as well as recognizing the basic eco properties of the materials in manufacturing.

The module offers:

- Article;
- Lesson plan;
- Powerpoint presentations through which the method of lecturing of the educators is simplified and illustrated with photographs, graphs, and similar;
- Videos – through which in an interactive way are presented the significant information for the given topic;
- Activities and tools intended for a school environment, training spaces, however online platform environments as well. They are developed with the goal of practical ensuring of the shared materials and their relevance, recognizing the ecologically-



designed products, as well as encouraging of singular and independent developing of concepts for realizations;

- Exercises as quizzes in regards to check the engaged knowledge;
- Suggestion resources for further research;

If you want to get acquainted with the topic, but not realize an activity or exercise, you can follow the presentation and/or watch the videos.

If you want to realize an activity, the video and the presentation are incorporated in it, due to the simpler implementation and approximation of the topic.

You can realize the module if you are an educator with your target groups, but also individually if you are interested in the topic, by having a special section in the description of activities "For the user/interested participants".

Overall Aim of module:

The goal of the module is to educate the youth in regards to the following points:

- ✓ Knowing the term and need for eco design
- ✓ Analysis for the lifecycle of the materials and their influence on the environment – key characteristics and steps;
- ✓ Learning about the basic tools for analysis of the lifecycle of materials;
- ✓ Eco-properties of the materials in manufacturing
- ✓ Usage of eco-data
- ✓ Recognizing the basic principles and phases of eco design (for example, frame of resources – manufacturing-design-consumer)

At the same time, through implementation of the activities within the module:

Developing a discussion for the influence of certain products on the environment

- ❖ Encouragement about research skills and recognizing the key competences and characteristics of eco-designed products
- ❖ Encouragement for the entrepreneurship spirit in sense of creating eco designed products
- ❖ Developing discussions and at the same time, skills for making concepts for eco designed products

Why is it important for the community?



Since the climate changes are a problem that does not pass, there has never been a better moment for us all to be more collectively aware about how we as individuals, corporations and businesses – influence on the Planet. New companies are appearing everywhere to provide simple and easily available options for using less plastic, recycled packaging, sustainable products, organic food and any other number of ways for choosing healthy.

The eco-design is a basis for circular economy, whose strategy is to give the products an indefinite life cycle in a closed circle, without waste. The design with sustainable materials means the goods in a circular economy reach the end of their useful life cycle in a suitable shape to be repurposed, unlike a linear economy.

Purchasing of ecological products costs less than the purchasing of a normal product. This way, the money is spent efficiently.

At the same time, this is a promise for a healthier way of life in terms of mortality, age, diseases, and improving the environment. The main aspect of sustaining ecological friendship is sustainability. The world is corrupted with pollution and producing a toxic environment of materials, so its sustainability can be a much better challenge.

Key dimensions/ key words of the module:

Eco design
Term for eco design
Principles of eco design
Eco design steps
How to make an eco-designed product
LCA methodology
Life Cycle Assessment
Procedure for Life Cycle Assessment
Examples of LCA Projects
Eco data
Eco properties of materials

The interplay between social entrepreneurship, with increasing awareness on environmental and climate matters

The eco-design is the strategy for societal responsibility of certain companies. With the goal of reducing their influence on the environment, many companies go through an eco-design approach to offer more green products. The eco-design is also linked to the bio mimics practices – excellent philosophy for design inspired by imitating nature. This marks a manufacturing perspective comprised of integration of criteria for preserving the environment in every phase: from starting to development, from transport to recycling.



We have good reasons for better and more efficient manufacturing: raw materials and natural resources are finite, and if we are not careful, we will be left without them. Some, such as water, are vital life sources, whereas minerals are of crucial importance for the key sectors of the economy, as well as the technological industry. So, the price the planet pays is not sustainable.

The ecological benefits of sustainable manufacturing influence the industry and society. The United Nations represent this system as a means for improving the quality of life for millions of people, reducing poverty, strengthening the competition and lowering economical, ecological, and societal expenses.