## **:intride**

Soft, Digital and Green Skills for Smart Designers: Designers as Innovative TRIggers for SMEs in the manufacturing sector

# Analysis of the training offer in the field of Design, in Romania

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There are seven university centres in Romania which have study programs in the field of Design:

Bucharest;

Brașov;

Iași;

Cluj-Napoca

Oradea

Arad;

Timișoara.



The traditional art universities in Romania which offer Design programs are:

- National University of Arts in Bucharest;
- University of Art and Design in Cluj-Napoca;
- "George Enescu" University of Arts in Iași.

Each of these 3 university offer a B.A. Program in Design and a M.A. Program in Design. The PhD. Programs have the title of Visual Arts, but there are PhD student with research programs in the field of Design supervised by professors who teach Design.

The main objective of the study programs in the field of Design offered by these universities is to develop complex abilities for the students, abilities which are capable to allow them to settle a relation between the artistic aspect and the technical one, in order to achieve the ability to create artistic, cultural and technical objects.

The main purpose of the training is directed towards developing the awareness that design can be useful to promote the image of art, the culture and the national image at international level.

Within the framework of the **conceptual, cultural, technical and artistic training** offered by the Design programs in the art and design universities the educational program is coherently directed towards the needs for product development, environmental protection and graphic-design.

The study programs are settled as content taking in consideration that **design must contribute to increasing the quality of life, the individual one as well as the collective one**.

The training offer is **permanently reviewed** as content of the courses inside the syllabus of each program, starting from the premise that design becomes **a vector of positive change** 





#### that may occur in the economy, society, culture and environment.

The identified purpose of the study programs in the field of design, offered by the art and design universities is to prepare students, so they could be able to anticipate and respond to complex dynamic needs, to assumes responsibilities in the professional field, to promote the profession in areas where it can and should work.

The syllabus contain:

**Studio-based courses** (drawing for design, digital image processing, basis of infography, perspective and geometrical drawing, layout, design for visual communication, ergonomics, 2D and 3D modelling, techniques of transposition, etc) and

**Theoretical disciplines** (history of art, philosophy of art, artistic anatomy, compared anatomy, communication and management in Visual Arts, foreign languages, etc), specific for the field of visual arts.

The training aimed to offer **Technical skills** has always a theoretical part and a practical one which offer the students **knowledge on technical equipment**, **on classical and modern technologies and materials**.

The training wants to lead to skills and abilities of using the technologies and materials in order to develop products with a high coefficient of quality, functionality, aesthetics, operational safety, compatible with the





### required reference standards of the internal and international market.

Most **Digital skills** that could be obtained are **related to the Technical skills** necessary to develop the design projects over all the study modules directed to **product development**, **environmental design** and **graphic-design**.

All the courses with a digital component contains **concepts and** applications of design elements and their relationships.

There are courses which lead to acquiring **Soft skills**. Some examples are:

- a. Communication and management in Visual Arts, Marketing,
  Creative explorations in Design at the University of Art and
  Design in Cluj-Napoca;
- b. Communication and negotiation, at "George Enescu"
  University of Arts in Iasi.

Actually, there are many courses which have in their content diverse approaches of the sociological analysis, design thinking, the social values of the interactions: human being – object, human being – human being.

The courses related to **Green skills** are available at all art and design university and the preoccupation of this issue is a permanent one.

Many courses have a content oriented towards the green approach, like Practical applications in Design at University of Art and Design in Cluj-Napoca.





The other design programs are offered by the faculties of visual arts or faculties of design at the following universities, :

- · West University of Timisoara, Faculty of Arts and Design;
- University of Oradea, Faculty of Arts, Visual Arts Department.
- "Aurel Valicu" University in Arad Faculty of Design.

The didactical approach is similar with that of the art and design university, because the study programs in the field of visual arts have a national strategy.

Besides the common component of the syllabus of the design study programs (design theory and technology, color theory, computer graphics, electronic imaging and digital production), there are also specific courses at each faculty providing educational programs in the field of art and design.

Some examples of courses leading to soft, digital or green skills are listed bellow.

Courses which lead to acquiring digital skills and green skills at Faculty of Design, "Aurel Vlaicu" University of Arad:

- a. Computerized three-dimensional modeling;
- b. Eco-design.

Couses which lead to acquiring digital skills and green skills at University of Oradea, Faculty of Arts, Visual Arts Department:

- a. Advanced Materials and Technologies for Design
- b. Packaging Design
- c. Advanced Digital Editing for Design

Courses which lead to acquiring digital skills, soft skills or green skills at Faculty of Arts and Design, West University of Timisoara:

- a. Ecological design;
- b. Business and entrepreneurship;
- c. Significance, utility, urban aesthetics.

As a conclusion related to the Design programs existing in the art and design universities or faculties, there isn't any master program specifically settled for the expected skills, Soft or Digital or Green. These skills are acquired by the students graduating existing programs only by some courses or modules of courses inside the existing syllabus.





The study programs in the field of design provided by the faculties with a technical orientation (engineering) are offered by:

- Transilvania University of Braşov;
- Technical University in Cluj-Napoca.

Couses which lead to acquiring **digital skills** and **green skills** at Transilvania University of Braşov are found in two faculties.

- A. Faculty of Product Design and Environment, Industrial Design Program
  - a. Communication Skills;
  - b. Creativity and innovation in Design or intelligent products and technologies;
  - c. Computer Aided Shape Modelling in Design;
  - d. Virtual Prototyping;
  - e. Web-design;
  - f. Product Design for Solar Energy Conversion or image processing;
  - g. Eco—design and Products Recycling or Quality in Product Design.
- B. Faculty of Product Design and Environment, Product Design Engineering Program
  - a. Ecological materials;
  - b. Recycling technologies;
  - c. Management;
  - d. Clean technologies;
- C. Faculty of Furniture Design and Wood Enginering, Advanced Structures of Wood and Innovatice Technologies, Master Program
  - a. Modern materials and eco-materials for wooden structures;
- D. Faculty of Furniture Design and Wood Enginering, Eco-design and Restoration for Furniture, Master Program
  - a. Product eco-design;
  - b. Eco-certification and emissions in the furniture industry
  - c. Virtual restoration

Couses which lead to acquiring **digital skills** and **green skills** at Technical University in Cluj-Napoca, Industrial Design Program:

a. Ecology and environmental protection;





- b. Virtual Reality;
- c. Technologies for 3D printing, Animation 3D;
- d. Digitisation techniques and product reconstruction;
- e. Technologies for the Internet of Things (IoT).

Consequently, the training offer in the field of engineering is diverse and there is a specific program oriented to Eco-Design at Transilvania University of Braşov and the other programs, at the above two mentioned universities, contain many courses which lead to acquiring soft, digital and green skills.

#### **General conclusions**

There are courses or modules of courses inside many study programs in the field of design at the universities in Romania, but there will be a good added value with offering a Joint Master Degree program for designers with a coherent approach, at international level, of the expected soft, digital and green skills (SDG) for the students graduating this proposed program.

If we think at the expected skills for graduating students, we have to consider that at the master's degree level, students focus on studio skills and the development of expert technique, project management, and advanced design theory and applications.

Reviewing the full list of outcomes can reveal the academic focus of the proposed study program, helping to bring a program's goals into focus with personal career goals, taking in consideration the objective to reach the expected SDG Skills.

As regards the posible added components for the future master program developed with the framework of the Intride Project, we list bellow few ideas.

#### For the cathegory of digital skils:

- Media management in digital design: managing visual communications across a range of diverse channels;
- It is esential for the programs in design to offer skills for using the emerging media and get advanced knowledge of software and industry-standard tools.





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