



MULTITRACES

MULTIDISCIPLINARY TRAINING IN CIRCULAR ECONOMY AND SMART VALORISATION OF THE RURAL AREA FOR NEW BUSINESS MODELS

Co-funded by the
Erasmus+ Programme
of the European Union



CIRCULAR ECONOMY IN RURAL ENVIRONMENT - INTERNATIONAL ONLINE COURSE

ABOUT COURSE

"Multidisciplinary training in circular economy and smart valorisation of rural area for new business models" is an online course with a weekly attendance of 6 hours (available and asynchronous), individual study, teamwork and debates, for training entrepreneurial skills, in order to develop new businesses to increase the degree of insertion of young people in rural areas.

The course, organized in four modules, aimed at:

1. Circular economy in rural territories: principles and working methodologies, developed by the Polytechnic of Turin;
2. New vision regard the specific economic activities of the rural environment : by-products valorisation and waste reduction, developed by Polytechnic of Turin;
3. Sustainable development of the rural area and smart valorization of the natural resources, developed by the International Hellenic University, in collaboration with Vasile Alecsandri University of Bacău;
4. Business Management in the framework of circular economy , developed by University of Alicante, in collaboration with Vasile Alecsandri University of Bacău and Comunidad de Regantes de Pliego.

The companies in the agri-food and agroforestry sector involved in this project (Agrindustria Tecco - Italy, Romagria SRL - Romania) Alfa Wood Group SA - Greece, provided practical problems (mini-challenges) that were solved by students in the projects carried out in each module.

Development period: 1.02.2021– 20.06.2021

Enrolled: 80 students

(18 POLITO, 19 IHU, 25 UA, 18 UBc)

Graduates: 61 students

(15 POLITO, 17 IHU, 12 UA, 17 UBc)

Transferable credits granted: 1.5 ECTS / module

CIRCULAR ECONOMY IN RURAL TERRITORIES

Working principles and methodologies

Human evolution and prosperity involves social and economic transitions, which is why educational institutions need to develop the capacity to understand the complexity of the interactions between natural and artificial systems in their holistic dimension. Systemic design, as a tool for understanding environmental issues, includes the idea of forecasting and projection. Systemic design deals with a complex set of systems that interact and form wholes . It seeks to imitate Nature in anthropogenic activities and seeks to take a holistic approach to raising the awareness of future generations about their responsibility for sustainability.

NEW VISION REGARD THE SPECIFIC ECONOMIC ACTIVITIES OF THE RURAL ENVIRONMENT

By-products valorisation and waste reduction

Reducing environmental pollution can be achieved by optimizing the recovery of by-products and waste from various branches of the food industry. In this context, an integral and rational capitalization is pursued, being able to obtain products with a value that can sometimes exceed the original product. Therefore, in this module are presented the main by-products and waste from milk, wine, beer, meat, sugar, alcohol, oil, canned vegetables and fruits, cereals, beekeeping, wood, etc., by focusing on recovery methods.

SUSTAINABLE DEVELOPMENT OF THE RURAL AREA

The subject of this module is the development of sustainability concept and the objectives of sustainable development in accordance with rural areas natural resources. A good understanding of the concept involves identifying and capitalizing on natural resources in rural areas, classifying ecosystem services (MEA, CISES, TEEB, TEV), quantifying risks (forest fires, deforestation, carbon sequestration, forest degradation, illegal hunting, water quantity and quality degradatio etc.) and especially the regeneration of natural resources and their sustainable management by measuring stocks, addressing precision agriculture and forestry and evaluating ecosystem services.

BUSINESS MANAGEMENT IN THE FRAMEWORK OF CIRCULAR ECONOMY

Management used initially in administration, police, politics, army acquires economic values over time. Today, management is seen as "the art and science of leading, managing and making decisions" or "the set of principles, methods and rational techniques for organizing and running the enterprise". The objective of this module is to highlight the relevance of the concept of business management in the circular economy and the benefits of the specific activities of organization and management, in order to make optimal decisions in ensuring and regulating microeconomic processes in rural areas.



"Thanks to this course and the discovery of "circular economy" we have acquired a new approach to our system and our life. A concept that re-defines the economy so that it follows the natural cycles. In addition, the multidisciplinary aspect as well as the international con-text of the course has been a great opportunity for us. Working in international teams and with people with expertise in different fields have allowed us not only to learn a lot of things, but also how to collaborate and how to work as a team (we had to trust each others' skills)". UA, Spanish students.



"I believe that this initiative is important and useful for a more in-depth study of issues that would be otherwise put aside. The part that interested me the most during the project, was the chance that me and my teammates had to dialogue and participate actively thanks to different backgrounds and ideas, in the various challenges. Despite some communication difficulties, the different points of view that engineering, management, etc. students shared allowed me to learn new approaches of the circular economy. The modules explored topics that my university course generally does not address, which helped me to prepare comprehensively on the subject. I really enjoyed being able to collaborate with experts from companies from different sectors, so as to learn about the initiatives and impacts that the circular economy has in Europe". Massimiliano Vastola, Polytechnic of Turin, Italy.



"I had the privilege to participate in the MULTITRACES Erasmus international course regarding circular economy! We took part in really interesting classes and worked on group projects which I thought was great! Overall, the experience of the course programme, all we learned from the four universities' modules, and the work we did were very fulfilling. I expanded my knowledge and got the opportunity to share ideas with people from different places and backgrounds and make new friends. I loved it!" Nefeli Saia Machairidou, Greece ". Nefeli Saia Machairidou, IHU, Greece.



"Through Eurostat, I found that Romania ranks last in the use of the circular economy. Hearing about Multitraces, I thought I could improve the environment in my own country. I liked the information provided, the different perspectives and the interaction with fellow students from the participating universities. I had the chance to find information that I would not otherwise have found. If I had to choose the favourite, the first module seemed to me the most interesting due to the amount of information I intend to use for the community I belong to ". Lidia Matei, UBc, Romania.



After the long isolation imposed by the international restrictions, the project partners met again "face to face" in the second transnational meeting. The event on 30-31 August 2021 was hosted by the International Hellenic University, Drama Division. Located at the foot of Mount Falakro, with abundant water resources, hence the nickname of the city of water, Drama was the perfect place to continue discussions about the CIRCULAR ECONOMY IN THE RURAL ENVIRONMENT AND THE CONSERVATION OF NATURAL RESOURCES. The working sessions took place in the hotel's conference room because the access to the university had been restricted. During the meeting, many issues were raised related to student accommodation, travel to company headquarters, farms or crops, how mentors would work with students. Solutions to some of these issues were found during the meeting, while others will be clarified in the future.

ALFAWOOD

Entrepreneurial concepts in the rural area

The visit to Alfawood was an opportunity to observe the transformation of wood waste into pellets and then into energy, a process that is part of the process of forming and transmitting entrepreneurial concepts in the spirit of the circular economy in the case of rural business. As they represent themselves, Alfawood creates, enhances, and connects activities with the least possible impact on the environment, for sustainability and slowing down climate change. Alfawood's motto is "receive - process - recycle" instead of "receive - process - reject". Alfawood recycles biomass waste from the production process, as well as other waste, such as forest biomass, vegetable waste, wood packaging and other materials from wood processing, which they use as raw material for energy production. electricity and "green energy".



<http://multitraces.ub.ro>

<https://www.facebook.com/imultitraces>

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