PROPOSAL FOR EDUCATIONAL CONTENT 2023

Project "*Ecosistemi dell'Innovazione*"

Joule for Rome Technopole

The present document synthesizes the main features, contents and training methodologies provided by the course "**Introduction to Circular Economy Management**", proposed by Eni JOULE within the project "**Ecosistemi dell'Innovazione**", funded by PNRR and organized by Rome Technopole, addressed to boosting research and raising awareness on the themes related to the ecological transition and digital innovation.

INTRODUCTION TO CIRCULAR ECONOMY MANAGEMENT

OVERVIEW

During the last few decades, the business as usual, based on linear economy and resources overexploitation, has shown its limits and nowadays humanity is facing a triple global crisis due to climate change, loss of biodiversity and massive waste production.

In this context, circular economy represents a valid alternative in order to promote a more sustainable economic model where economic and population growth would come alongside with societal wellbeing, regeneration of natural ecosystems and increased system resilience.

For this reason, on one side companies see in circular economy a strategical opportunity to reduce industrial environmental impact while increasing their competitive advantage, due to cost saving and improved brand reputation; on the other, policy makers at international level are supporting circular solutions in sustain of the ecological transition and to promote a change in the overall consumption and production pattern.

LEARNING GOALS

The course, therefore, aims at providing PhD students with the basic knowledge needed to understand the principles of circular economy and to develop and analyse circular solutions under a broad perspective. In particular, the course will go through the key concepts of circular economy, such as an overview of the main theories that underpin its evolution, an introduction to the policy context, the design of circular business models, an understanding of how an organization can produce and/or reduce its impacts on the environment, and the approaches and methods (as well as the organizational, managerial and operational tools) that can be developed to effectively manage those impacts in a circular perspective.

TARGET

The course is addressed to **doctoral students**, with particular regards to the field of Economy and Engineering. Nonetheless, due to the generalist and transversal approach that will be followed during the course, the lectures would be suitable **for students from different backgrounds.**

DURATION

10 hours, distributed during 5 weeks.

TEACHING METHODOLOGIES

This course will promote **an interactive learning environment** thanks to a mixture of traditional and alternative teaching methodologies and through the use of practical and experimental hands-on activities.

Alongside to **frontal lessons**, the lecturers will provide:

- **Case studies analysis**
- **Academic papers discussion**

In order to enable and promote the interactivity of the students, it is highly recommended that the class size does not exceed 15 students

GENERAL STRUCTURE

LECTURE	MAIN TOPICS	LEARNING GOALS
1	• ***AN INTRODUCTION TO CIRCULAR ECONOMY CONCEPT*** • ***INSTITUTIONAL ENVIRONMENT: POLICY CONTEXT***	• Introduction of the three pillars of sustainable development and the differences between circular and linear economy; • General understanding of principles, theories and business models that underpin CE; • Overview of the key normative milestones to the implementation of CE at a global level, with particular regards to national and European context.
2	• ***SUSTAINABILITY, ENVIRONMENTAL AND CIRCULAR ECONOMY MANAGEMENT*** • ***CIRCULAR ECONOMY BUSINESS MODEL***	• Understanding the principles, approaches and tools to manage the environmental impacts of an organization under a sustainable and circular perspective; • An overview of the main approaches, techniques and tools to design circular products and processes.

3	• ***DRIVERS & BARRIERS OF CIRCULAR ECONOMY DESIGN***	• Focus on drivers and barriers for the implementations of circular solutions. • Open discussion with the support of academic papers and business cases
4	• ***MEASURING CIRCULARITY*** • ***THE ROLE OF INNOVATION IN CIRCULAR ECONOMY***	• An overview of the main approaches, techniques and tools to measure circular performance in products and processes. • Open discussion with the support of academic papers and business cases on the role of innovation as enabler for circular solutions
5	• ***THE ROLE OF LCA FOR SUPPORTING CIRCULAR TRANSITION***	• A focus on the key tools and approaches, with particular regards to the life cycle thinking philosophy. • Open discussion with the support of academic papers and business cases