UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Inorganic waste as a resource

2223-BbetweenSDG-08-09

Module description

The module aims to address the issue of the Circular Economy by exploiting inorganic waste as a raw material to produce new materials thanks to the process of capture and storage of atmospheric carbon. The course will consist of 6 multidisciplinary meetings which will address the topic by explaining how fundamental research in the geological and physical fields can find useful applications for civil society. The course will end with a socio-economic analysis of the effects of the implementation of Circular Economy models on social welfare with particular reference to the mitigation of climate change and the promotion of sustainability.

Learning goals

General goal

To raise awareness and create a model for the Society by promoting a scientific approach on how to regenerate waste materials in a future self-sustainable economy. Apply environmental skills and expertise across the board. Adopt actions to reduce pollution and promote sustainability.

Specific skills and competences

Basic scientific skills and competences on the knowledge of geomaterials used in daily life, their exploitation and recycling. Apply the skills acquired in environmental matters.

Sustainable Development Goals of the 2030 UN Agenda

11 – Sustainable cities and communities; 12- Responsible consumption and production; 13 – Fight against climate change.

Breakdown of meetings

The 12 hours module is divided in 6 meetings, two hours each.
Detail:

1. 2 hours: The Earth System as a natural laboratory for the study of greenhouse gases and their neutralization. (Prof. Malaspina Nadia)
2. 2 hours: The recovery of inorganic waste in the logic of the Circular Economy. (Prof. Giancarlo Capitani)
3. 2 hours: Geological methods for CO2 storage and mineral transformation. (Prof. Malaspina Nadia)
4. 2 hours: Visit of the laboratories (virtual tour) and use of scientific instruments for waste recovery processes. (Prof. Marcello Campione)
5. 2 hours: - Circular economy and sustainability. (Prof. Susanna Dorigoni)
6. 2 hours: - The role of the circular economy in the European decarbonisation strategy. (Prof. Susanna Dorigoni)

Number of participants

There is no limit to the number of participants.
The module is provided remotely.

Language used in meetings

Italian / English (in case of non italian speaking participants)

Delivery period of the module

May-June 2023

Methods of assessing the outcomes of the learning process

Remote quiz (wooclap) and active participation.

Department of affiliation of the teacher

Department of Earth and Environmental Sciences - DISAT

Sustainable Development Goals

SUSTAINABLE CITIES AND COMMUNITIES | RESPONSIBLE CONSUMPTION AND PRODUCTION | CLIMATE ACTION