UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

The Role of Inorganic Systems in Formulations: Chemistry Insights and Applications

2425-116R-M11

Title

The role of inorganic systems in formulations: chemistry insights and applications

Teacher(s)

Prof. Massimiliano D'Arienzo
Prof. Roberto Scotti

Language

english

Short description

The course aims to provide an overview of the importance of inorganic systems (e.g. metal oxides, ceramics and polysiloxanes) in materials formulations. The lessons will focus on preparation techniques, chemical and surface modification of inorganic systems, with special emphasis on applications in polymer nanocomposites.
The following topics will be covered:

1. Scalable synthesis approaches of inorganic materials for application in formulations (2h)

2. Tailoring the hybrid interfaces of inorganic nanoparticles: a necessary step for their exploitation in formulation chemistry (2h)

3. Oxide-based filler for polymer composites formulation: the complementary role of the morphology and surface functionalization in defining the final performance (2h)

4. Inorganic systems as a powerful option to control the rubber vulcanization process (2h)

CFU / Hours

1CFU/8 hours

Teaching period

26/5/2025 2:30-4:30 pm
27/5/2025 2:30-4:30 pm
28/5/2025 2:30-4:30 pm
29/5/2025 2:30-4:30 pm

Sustainable Development Goals

AFFORDABLE AND CLEAN ENERGY | INDUSTRY, INNOVATION AND INFRASTRUCTURE | SUSTAINABLE CITIES AND COMMUNITIES | RESPONSIBLE CONSUMPTION AND PRODUCTION