ANNEX 2.1

DEGREE PROGRAM DIDACTIC REGULATIONS

INDUSTRIAL BIOENGINEERING

CLASS LM-21

Polytechnic and Basic Sciences School

Department of Chemical, Materials and Industrial Production Engineering

Didactic Regulations in force since the academic year 2025-2026

Course: Sustainable Materials	**Teaching Language:** English
SSD (Subject Areas): IMAT-01 (former ING-IND/22)	**CREDITS:** 6 ECTS
Course year: 1st or 2nd	**Type of Educational Activity:** D
Teaching Methods: in-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: 1) Environment and anthropic activity: use of raw materials and energy sources to produce materials, with reference to the related environmental impact problems. 2) Environmental sustainability of materials: evaluation of the impact of the production, use and disposal of inorganic materials on the environment, with reference to the problem of the use of non-renewable energy sources. Use of tools for the implementation of the LCA (Life Cycle Assessment) of a material. 3) Materials and environment: use of materials in Energy Harvesting, Energy Storage and Environmental Protection processes. In addition to the institutional part, seminars held by external experts are planned.	
Objectives: The course aims to provide students with advanced information on sustainability of materials and environmental impact assessment. The principles of sustainability and sustainable development will be introduced, as well as their application to material production and processing strategies. The criticality of currently available resources will be explored, as well as the opportunity to recycle materials. Finally, different methods for sustainability assessment will be presented and studied, along with a series of case studies.	
Propaedeuticities: none **Is a propaedeuticity for:** none	
Types of examinations and other tests: oral	