UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Environmental Geology and Territorial Management

2627-1-F7503Q033-F7503Q03301

Aims

To provide knowledge and acquire on geological environmental resources and in particular on the relationship between man and geological environment. The objective is to make the student to have autonomous judgment on the sustainable use of geological resources.

The course deals with the concept of environmental sustainability applied to geological resources; in this context will be analyzed the main geological resources and the impact that man has on these resources. Among the geological resources is also included the concept of landscape, prodrome to analyze the principles of land use planning.

The keys to the reading of the problems of environmental sustainability applied to the geological environment are then provided (concept of territorial sustainability).

Contents

Contents:

1. Introduction to environmental geology
   basic concepts of the meaning of geology, environment and territory are

2. Relationship between Man and the Environment,
   (a)human population development,
   b)the geological components of the environment.

3. Environmental geological resources
   a)Fossil Resources
   b)Water Resources: surface water and groundwater

4 Sustainable Development
a)Concept of environmental sustainability and sustainable development

5. Sources of energy transformation

6. Human impact on the geological environment
   a) Water
   b) Subsoil

7. .Relationship between Environmental Geology and Territorial Planning

8. Impact of geological processes on human activities
   a) Risk and Hazard
   b) Earthquakes

Detailed program

Introduction to Environmental Geology

1. Relationship Between Humans and the Environment, Environmental Sustainability
   a) Growth of the human population
   b) Geological components of the environment
   c) Environmental sustainability and sustainable development
   d) Environmental risk

2. Geological–Environmental Resources
   a) Fossil resources
   b) Mineral resources
   c) Landscape as a resource
   d) Water resources: surface water and groundwater

3. Energy Resources
   a) Non?renewable sources

Fossil fuels

Nuclear energy
b) Renewable sources

Hydroelectric energy

Geothermal energy

Solar energy

Wind energy

Biomass energy

Tidal energy

4. Human Impact on the Geological Environment
   a) Subsurface space: land occupation and induced seismicity
   b) Waste and land management

5. Relationship Between Humans and Territory: Spatial Planning
   a) Municipal Master Plan (PRG)
   b) Territorial Government Plan (PGT)
   c) Higher?level territorial planning
   d) River contracts
   e) Geological hazard

Prerequisites

Basic elements of Geology, Petrography, Geophysics and Physical Geography.

Teaching form

- 24 Lessons of 2 hours, 6 credits , Delivered Didactics

Textbook and teaching resource

Semester

first semester

Assessment method

The examination of this module includes:

- a written report (max 10-15 pages) on a topic chosen by him/her, pertaining to the topics covered in the course,
- interview with discussion of the report.
  In the oral interview you will be asked to coherently state how, starting from the objectives of the report, you arrived at your conclusions. In addition, questions will be asked concernig the topics covered in the course

Office hours

To be agreed by email

Sustainable Development Goals

AFFORDABLE AND CLEAN ENERGY | SUSTAINABLE CITIES AND COMMUNITIES | LIFE ON LAND