UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

## Environmental Geology

**2122-1-F7501Q003**

### 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
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. Impact of geological processes on human activities

a)Risk and Hazard
b)Earthquakes
8.Relationship between Environmental Geology and Territorial Planning
9. Geothematic Cartography

## Detailed program

Contents:

1. Introduction to environmental geology

2. Human-Environment Relationship,

(a) human population development,

(b) geological components of the environment.

3. Environmental geological resources

a) Fossil Resources

b) Water resource: surface water and groundwater

4. Sources of energy transformation

a) Non-renewable Sources

Fossil fuels

Nuclear energy

b) Renewable sources

Hydroelectric energy

Geothermal energy

Solar energy

Wind energy

Biomass energy

Tidal Energy

5. Sustainable Development

a) Concept of environmental sustainability and sustainable development

6. Human impact on the geological environment

a) Water

b) Subsoil

7. mpact of geological processes on human activities

a) Concept of Risk

b) Seismic Hazard

8. Relationship between man and territory: Territorial Planning

a) PRG, municipality planning

b) PGT. urban plannig management

c) Superordinate planning

d) River contracts

9. Geothematic Cartography

## Prerequisites

Elements of Geology, Petrography, Geophysics and Physical Geography.

## Teaching form

- 48 hours of Lessons tutorials, 6 credits

- 2' hours of Laboratory experiences, 2 credits

## Textbook and teaching resource

## Semester

first semester

## Assessment method

The student must prepare a written report on a topic chosen by him, related to the topics covered during the course, which is then discussed with the teacher on the day of the oral test.

The subject of the evaluation will be the verification that the thesis and the topics covered have a logical thread that

starts with the objectives and ends with the conclusions. The oral test will focus on the exposition of the report and on the verification of the knowledge of the topics covered in the course.

## Office hours

every day on appoitment