



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Environmental Geology and Territorial Management

2223-1-F7501Q102-F7501Q109M

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#### 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**

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, territorial externalities

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. Relationship between man and territory: land governance

a) PRG, municipality planning

b) PGT. urban planning management

c) Superordinate planning

d) River contracts

8. Impact of geological processes on human activities

a) Concept of Risk

b) Seismic Hazard

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9. Geothematic Cartography

## **Prerequisites**

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

## **Teaching form**

- 48 hours of Lessons tutorials, 6 credits

## **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 linking with the other topics covered in the course and ending with the conclusions.

## **Office hours**

To be agreed by email

## **Sustainable Development Goals**

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

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