UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Geology Teaching

2425-1-F7501Q093-F7501Q107M

Aims

Specific objectives

1. Identify the key topics of Geology;
2. make the logical connections between the arguments;
3. identify the essential notions and the methods of reasoning.

Contents

- The “deep” time. Relative and absolute ages
- Rock cycle and the geological time
- Plate tectonics theory.
- Exogenous processes
- Hydrological cycle
- Rivers as modeling agents
- Interactions between water and human activity
- Drinking water

Detailed program

The module will deal with the main topics of Geology, focusing more on the contents than on teaching methods for knowledge transfer.

In particular, the following will be taken into consideration:

- The “deep” time. Relative and absolute ages. Plate tectonics theory. Divergent plaque margin (rifting), transform (lateral movement), and convergent (subduction). The geological conformation of Italy and the seismic and volcanic risk.
- The main exogenous processes that shape the surface of the earth, the key elements of the hydrological cycle, the relationship between groundwater and surface waters and their interactions with human activities.

The laboratory activities include practical experiences and group discussion work on proposed topics aimed at developing critical, logical and conceptual links (cartography laboratory with Google Earth, which will provide students with the ability to orient themselves and recognize geological aspects, laboratory on the territory to contextualize theoretical geology to the experience of students, classroom activities to estimate the infiltration into the subsoil, simulation of a data collection system on the daily use of water in our homes.

Prerequisites

The knowledge of a basic Geology will be considered acquired and bibliographic indications provided for a possible integration or review of the contents.

Teaching form

- 8 lessons, 2-hour lessons that alternate delivered didactics and interactive teaching

- 7 meeting of 2-hour exercises with interactive teaching methods (group work and discussion, using Moodle tools(quizzes, wooclap, shared whiteboard, shared files, tools such as Google Earth). The exercises will focus on the Theory of Plate Tectonics, the calculation of the return time of floods and the development of a data collection system, monitoring the uses of water at home, experiments to estimate the infiltration capacity of the subsoil.

- 6 hours of excursion in the downtown of Milan with interactive educational activity entitled *the stones of my city*. The exercise will consist of recognizing the different rocks of Milan's historic buildings (e.g. churches or monuments) linking the geology of the place to its history.

Textbook and teaching resource

Slides of the frontal lessons, additional material discussed in the classroom.

During the course of the lessons will be indicated and provided any additional educational materials (articles and slides) that can supplement the preparation of the exam. A site will also be indicated with possible geology videos, also in addition to what was seen and discussed in classroom.

Semester

Second semester

Assessment method

The verification consists in the presentation of a didactic project, to be delivered a few days before the session, which will be displayed during the exam.

Office hours

By appointment via email

Sustainable Development Goals

CLEAN WATER AND SANITATION | CLIMATE ACTION