UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Cambiamenti Climatici

2425-2-F7501Q084

Aims

Understanding the physical bases of climate changes and their impacts on natural and anthropic systems, on different spatial and temporal scales.

At the end of the course students will have:

KNOWLEDGE AND UNDERSTANDING. Acquire an introductory knowledge of climate system physical components and their natural and anthropic perturbations

APPLYING KNOWLEDGE AND UNDERSTANDING. Acquire a specific competence and apply technical knowledge physical-chemical aspects related to climate change.

MAKING JUDGEMENTS. Learn to critically think about the complex interactions between physical and socio-economics aspects of climate change, focussing on atmosphere.

COMMUNICATION SKILLS. Demonstrate the acquisition of a correct vocabulary and to know how to expose the essential contents of the subject in a clear and mature way.

LEARNING ABILITY. Be able to tackle the study of advanced textbooks, technical reports and scientific articles, mostly in English, produced by research centers, governments and international organizations, related to climate phenomena and to mitigation and adaptation policies.

Contents

Physical bases of climate changes. Feedbacks in the Earth system. Vulnerability, impacts, adaptation and mitigation. Climate change science in the panorama of international treaties on climate.

Detailed program

The Climate Change Laboratory course is organized in the form of seminars, focused on paleoclimate reconstructions from ice cores, that are natural archives of climatic history. The most important measurement techniques will be shown, in tandem with the basic principles of paleoclimatology and the major achievements deriving from studies of polar and non-polar ice. This will be done in the perspective of a comprehensive understanding of how it is possible to reconstruct past climate change, how it is possible to synchronize climate records from the two hemispheres, and which is the link between greenhouse gases and climate, as well as the anthropogenic impact on climate and environment in the course of Holocene.

Prerequisites

Atmospheric Chemistry and Atmospheric Physics (reccomended)

Teaching form

Frontal lessons (Climate Change)by 2 hours : 5 CFU (40 hours) Delivered Didactics - Prof. Valter Maggi
five Climate Change Laboratory by 2 hours : 1 CFU (10 hours) Interactive teaching- Prof. Barbara Delmonte

Textbook and teaching resource

Check on web site: http://elearning.unimib.it/

Semester

Second semester

Assessment method

Oral exam composed by two parts, for lessons and laboratory respectively.
The final mark corresponds to the weighted average of the two partial marks.

Office hours

By appointment:
valter.maggi (at) unimib.it

For the Laboratory part:
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Sustainable Development Goals

CLIMATE ACTION