



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Laboratorio di Fisica e Didattica della Fisica

2425-3-G8501R017-G8501R052M

Course title

Between Earth and Sky

Topics and course structure

The laboratory offers a path of observational astronomy, during which observations, instruments and models are carried out, bringing out previous knowledge, hypotheses and discoveries first from the local point of view, then from the global point of view of the planet and finally from the external point of view of the planet. planet (of space). The topics are different and interdisciplinary: light and movement are the two great conceptual areas underlying the entire journey.

Objectives

With this teaching, with constant and participatory attendance at the lessons and the laboratory connected to the course, we intend to PROMOTE the following learning, in terms of:

*Knowledge and understanding: apparent path of the sun and stars in the sky: description, representation and interpretation; orientation and cardinal points; vertical and horizontal; globo-local: what does the parallel globe allow us to discover? Physical variables linked to the sky and vision: dimensions, distances, light and matter interactions; relativity of movement; climatic bands and seasons.

*Ability to relate differentiated knowledge and models

*Ability to apply knowledge and models to daily life

Methodologies

Observation of shadows and stars outdoors and through software and simulations; construction of instruments/models for recording the movements of the stars over time; measurement of significant quantities; modeling of motions, spatial and dimensional relationships, lighting, eclipses.

Online and offline teaching materials

Laboratory handouts which also indicate all the websites used and the bibliography used

Programme and references

Attending the laboratory does not require the study of specific texts but we strongly recommend reading the following texts:

- Franco Lorenzoni, Con il cielo negli occhi. Edizioni La Meridiana, 2009.
? N. Lanciano, Strumenti per i giardini del cielo, ed Asterios, 2019 (riedizione di quella del 2002, edizioni Junior)
? Lanciano et al., 2009, A scuola di miti e di scienza. Edizioni Junior

Assessment methods

Approval is subject to attendance and participation in meetings. The laboratory does not include any final test although in the physics end-of-course exam a question will be asked relating to the astronomy part carried out during the laboratory.

Office hours

If necessary, contact and make arrangements directly with the laboratory leaders via email

Programme validity

2 years

Course tutors and assistants

Monica Chiara Onida e Marco testa

Sustainable Development Goals

REDUCED INEQUALITIES | SUSTAINABLE CITIES AND COMMUNITIES | CLIMATE ACTION | LIFE ON LAND
