UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

## Physical Geography

**2223-1-E3401Q040**

### Aims

*The Physical Geography course provides a broad spectrum of basic knowledge and adequate terminology for understanding the factors that contribute to the formation of the landscape on planet Earth. Using the planet as a natural laboratory, the characteristic morphologies of the main marine and terrestrial environments will be described, taking into account both endogenous and exogenous factors, such as landscape modifying agents. Particular attention will be paid to the role of the anthropic impact on the climate and natural environments of the planet following the intensive exploitation of the planet's resources.*

### Contents

The geological time

Planet Earth

Atmosphere and climate

Hydrosphere

The forms of the terrestrial and marine landscape

Man modifying landscape and climate

Field work in Val Ventina (SO), Vedretta della Ventina glacier

## Detailed program

***The geological time***

Geological timetable
The "deep time"
The scale factor in geology

***Planet Earth***

The Earth in the solar system
The Earth seen from space
The representation of the Earth

***Atmosphere and climate***

Thermal composition and subdivision of the atmosphere
Elements of the climate: solar radiation, temperature, pressure, atmospheric circulation, humidity and precipitation
Cloud classification
Classifications of climates
Extreme weather events in the Mediterranean area

***Hydrosphere***

The hydrological cycle
Oceans and seas: currents and waves
Lakes and groundwater
Rivers and sediment transport

***The forms of the landscape in the terrestrial and marine environment***

Distribution of continents and oceans
Coastal and wind morphology
The great geological structures of the earth's surface
The orogenic chains, the rift zones, the deserts, the volcanoes
Gravitative phenomena (Creeping, conoids and landslides)
I deserti

***Glacial and periglacial morphologies***

Glaciers
The erratic boulders and glacial striae
The fluvioglacial plain
Loess deposits
Soil deposits

***Landscape modifier agent man***

River and coastal protection works
Modification of the landscape for the exploitation of natural resources
Global climate change and anthropogenic pollution.

***End of course***

Review of the course topics for the final exam

Introduction to the Val Ventina excursion, Vedretta della Ventina Glacier (SO)

## Prerequisites

** **Prerequisites for the Physical Geography Course** **

• Having carried out the mandatory medical examination and obtained the authorization to carry out the activities on the ground.
• Following the online safety video.
• Having carried out the “Safety Course on the Ground” with the alpine guides.
• Have completed the workplace safety course test and uploaded it to the site.
• Register for the exam on the chosen exam date.
• Having carried out a day's fieldwork with the teacher of the Physisca Geography course.
• Having made and sent to the teacher the report on thefieldwork (.pdf), following the model indicated on the e-learning site of the course.
• Present at the moment of the examination the notebook with the notes and the drawings, in original, made during the fieldwork.
• Present an identity document with a recent and recognizable photograph.

- Resume and deepen the basic knowledge of the geography of the landscape of the planet Earth.
- A knowledge of introductory notions to Earth Sciences.

## Teaching form

Depending on the situation linked to the Covid-19 emergency, our University will communicate precise and updated information. Please consult the University website https://www.unimib.it/ateneo/covid-19.

The lessons will take place in person for the entire duration of the course.

The pdf of the lessons of the course with the contents and topics covered will be uploaded to the e-learning site, accompanied by an appropriate selection of in-depth bibliography and supplementary material to be searched online via the links indicated. Students' participation in the discussion of the topics covered will be stimulated to facilitate understanding of the topics covered through an active and continuous discussion during the course. The lessons of the course will be made available regularly, together with photographic material; simulated trips with Google Earth; movies and video excerpts.

At the end of the course, a daily excursion will take place in an alpine environment to recognize and describe the forms of the landscape associated with glacial and periglacial environments. On this excursion, a short written report will be required, the realization of which will be a prerequisite for being admitted to the oral exam. During the oral exam the activities carried out during the excursion and their understanding will in any case be deepened and evaluated.

## Textbook and teaching resource

The teacher will make the presentations shown during the lessons available on the e-learning website.

Text book suggested: Alan Strahler, 2015. Fondamenti di Geografia Fisica, Zanichelli 460 pg.

## Semester

The course will start in March 2023 and will end in June 2023, a complete calendar will be announced soon.
The filedwork will take place in the months of May and June 2023, a complete calendar will be communicated at the beginning of the course.

## Assessment method

The final exam will be held in oral form. The oral exam will take place after the end of the course and after having carried out the report on the fieldwork. The exam will verify the learning of the topics covered during the semester.
During the oral exam, 5 questions will be asked, in about 30 minutes. Each question will be evaluated from 0 to 5 points for a maximum score of 25/30. The final oral mark will then be added to the mark of the written report, evaluated between 0 and 5 points and the final mark will be expressed out of thirty.
Each student will be invited to take the oral exam by e-mail. The exam, once available, will appear in the first line of the course site on the e-learning site.
The individual report of maximum 10 pages of text, prepared at home on the computer and enriched with photos taken personally by the students during the outing in Val Ventina (SO), will be prepared following the model shared by the teacher on the e-learning site, in Word format and will be sent to the teacher according to the agreed times, before the oral exam, to the e-mail: sergio.ando@unimib.it

## Office hours

The course teacher is always available, by appointment, by contacting him via e-mail, at *sergio.ando@unimib.it*

## Sustainable Development Goals

QUALITY EDUCATION | GENDER EQUALITY | AFFORDABLE AND CLEAN ENERGY | CLIMATE ACTION