UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Physical Geography

2122-1-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 human being, the use of resources and the consequent impact on the climate and natural environments.

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

Preliminary notions of regional geography

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 marine and terrestrial landscape

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)

Glacial and periglacial morphologies

Glaciers

Loess, surface alteration and soil profiles

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

There are no specific prerequisites, however it is suggested to resume and deepen the basic knowledge of the geography of the landscape of the planet Earth. A knowledge of the introductory notions to Earth Sciences will be important to create a wealth of knowledge and an appropriate language on the different topics covered in the course.

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, however, guaranteeing a streaming connection during the lessons, 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

Text book suggested: Alan Strahler, 2010. Fondamenti di Geografia Fisica, Zanichelli 480 pg.

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

Semester

The course will start on 8th of March 2022 at 3.30 pm in room U1-06 and will end on 13th of June 2022.

The dates for the fieldwork and the procedures for participating in this mandatory activity will be communicated during 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, 6 questions will be asked, in about 45 minutes. Each question will be evaluated from 0 to 5 points for a maximum score of 30/30.

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 2 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.

E-mail: sergio.ando@unimib.it