UNIVERSITÀ DI PISA

PALEOBIOGEOGRAPHY

GIOVANNI BIANUCCI

Anno accademico	2019/20
CdS	CONSERVATION AND EVOLUTION
Codice	076DD
CFU	6

Moduli	Settore/i	Tipo	Ore	Docente/i
PALEOBIOGEOGRAFIA	GEO/01	LEZIONI	48	GIOVANNI BIANUCCI

Learning outcomes

Knowledge
The student who successfully completes the course will be able to demonstrate a solid knowledge of the history of life on Earth in relation to main paleogeographic changes over geological time.

Assessment criteria of knowledge
During the different activities of the course, the students will be directly involved in the discussion of the topics considered, for a real time evaluation of the preparation achieved.

Skills
The student will be able to understand the historical causes that led to the modern geographical distribution of the organisms.

Assessment criteria of skills
During the lessons questions will be asked to students to check their level of learning step by step.

Behaviors
The student must acquire accurate skills in processing the data provided by the professor during the lessons.

Assessment criteria of behaviors
The degree of acquisition and elaboration of the concepts will be evaluated during ongoing review lessons and at the end of the course.

Prerequisites
Basic knowledge of zoology, botany and physical geography.

Teaching methods
Delivery: face to face
Learning activities:

- preparation of oral reports
- Bibliography search
- Visiting museums

Attendance: Advised
Teaching methods:

- Lectures

Syllabus
Geological time (relative chronology and absolute chronology). The geological time scale. Plate tectonics. Mass extinctions (main mass extinctions and causes).
The history of life on Earth in relation to paleogeographic evolution: Precambrian, Paleozoic, Mesozoic and Cenozoic.
Biogeography: biogeography speciation models, evolutionary biogeography, phylogenetic biogeography, clado-vicariant biogeography,

panbiogeography, parsimony Analysis of Endemicity (PAE), Filobiogeography.
Paleobiogeography and plate tectonics: Pangea dismemberment and origin of modern bioprovinces; origin of the Oloartic kingdom; fragmentation of Gondwana; origin of the Afrotropical region; origin of the Mediterranean-Atlantic bioprovince; origin of the Malgascian region; origin of the Eastern region; origin of the Austral-pacific kingdom; Neotropic realm origin.
Case studies: paleobiogegraphy of Cetaceans, Pinnipeds, Palaeognatae, Camelids and Proboscidians.
Paleobiogeography of the islands. Peculiarities of island fauna. Paleogeography of the Mediterranean islands.

Bibliography

The slides of the lessons taught, available on the Elearning platform, contain sufficient information for a basic preparation.
This book (not exhaustive) can be consulted:
Mario Enrico Zunino Aldo Zullini. Biogeografia La dimensione spaziale dell'evoluzione. Seconda edizione. Casa Editrice Ambrosiana. Distribuzione esclusiva Zanichelli. 2004

Assessment methods

Final oral exam. The exame is on the entire program of the course and during the exame the student must be able to correctly explain the main topics presented during the course using the appropriate terminology.

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