University of Gdańsk

Subject card

Subject name and code	Biogeography - lecture, PG_00119849		
Field of study	Geography		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	undergraduate studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit	Pracownia Badań Paleośrodowiskowych -> Katedra Geomorfologii i Geologii Czwartorzędu -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Sambor Czerwiński	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	15	10.0	35.0	60

Subject objectives

Biogeography is the science of the distribution of plants and animals on the Earth's surface and the historical, ecological and anthropogenic factors that are responsible. In broad terms, it is concerned with the basic processes of evolution, extinction and dispersal.

The aim of the subject is to understand the general patterns of species distribution.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GEOGRL3-W08] at an advanced level methods and principles development of data on the natural and anthropogenic environment, and methods of their analysis and interpretation	.to an advanced degree, methods and principles of compiling data on the biosphere, and methods of their analysis and interpretation	[SW4] test/exam - oral or written
	[GEOGRL3-U03] use theoretical knowledge of geographic sciences and available sources of information to correctly interpret basic natural, social, economic and political processes	The student understands the complex interactions between biogeographical and socio-economic processes and is able to use appropriate places to find such information.	[SU4] test/exam - oral or written
	[GEOGRL3-W05] Has advanced knowledge of the environment Earth's geographic environment, understood as a unified system of interrelated and interacting each other's components; its diversity, functioning and dynamics of change, including the mutual interaction of environmental components in the area of South Baltic Coastal and Lake Districts	The student understands the diversity and functioning of the environment, its dynamics and the long-term human impact on ecosystems. He/she knows models and predictions about the distribution of species in relation to e.g. climate change.	[SW4] test/exam - oral or written
	[GEOGRL3-W03] in an advanced degree the processes and phenomena occurring in the natural environment of the Earth, with particular emphasis on the processes and phenomena occurring on the territory of Poland, especially the Coastal and South Baltic Lake Districts	- Understands advanced biogeographical processes and phenomena in the Earth's natural environment and its effects on the distribution of plant and animal ranges	[SW4] test/exam - oral or written
	[GEOGRL3-W02] key concepts in geography and theories on spatial variation and distribution of processes and phenomena on the Earth's surface	Knows and understands the key concepts of biogeography and the patterns and theories of species distribution on Earth.	[SW4] test/exam - oral or written
	[GEOGRL3-W06] interactions between the natural and anthropogenic environment at different spatial and temporal scales, in particular the processes and phenomena occurring in the area of the South Baltic Coastal and Lake District and the determinants of these interactions	Students understand the relationship between nature and its anthropogenic transformation that took place in the past in various places on Earth.	[SW4] test/exam - oral or written
	[GEOGRL3-W07] on advanced level methods of aquiring data on the natural and anthropogenic environment, including operation of specialized equipment	Knows and understands to an advanced level the methods of acquiring data concerning the study of various aspects of the distribution of organisms on our planet.	[SW4] test/exam - oral or written
	[GEOGRL3-U01] identify and analyze basic natural and socio-economic processes and phenomena and analyze their causes and course	Students understand natural processes such as dispersal of organisms, speciation and climate change and their effects. At the same time he/she knows the basic socio-economic mechanisms of their effects on, among other things, biodiversity and ecosystem structure.	[SU4] test/exam - oral or written

Subject contents	- History of biogeography. Origins of modern historical biogeography.- The fundamentals of ecological biogeography.- The relationship between biogeography and ecology. Diversity in time and space. The mechanism of evolution.- Overview of the world's terrestrial biomes.- Biogeography of the oceans.- Range, geographical barriers, ecological niche, interspecies interactions, migration, invasion.- Biogeography of islands as a natural laboratory for the study of biogeographical processes because of their isolation, limited space and specific environmental conditions.- Biogeographical characteristics of Poland.- Human impact on ecosystems at local, regional and global scales in historical perspective.
Prerequisites and co-requisites	

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
test	51.0%	100.0%

Recommended reading

Basic literature	Cox C.B., Moore P.D. Biogeography: An Ecological and Evolutionary Approach 8th ed. John Wiley & Sons, 2010 Lomolino M.V., Riddle B.R., Whittaker R.J., James H. Brown J.H. Biogeography 4th ed. Sinauer Associates, Inc., 2010
Supplementary literature	Parenti L.R., Ebach M.C.. Comparative Biogeography: Discovering and Classifying Biogeographical Patterns of a Dynamic Earth (Species and Systematics) University of California Press, 2009 4. Morrone J.J. Evolutionary Biogeography: An Integrative Approach with Case Studies 1st ed. Columbia University Press, 2008
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	Historical versus ecological biogeography Phytogeography and zoogeography The achievements of the most important scientists in the field of biogeography - Charles Linnaeus- Georges-Louis Leclerc de Buffon- Alexander von Humboldt- Charles Lyell- Charles Darwin- Alfred Russel Wallace- Alfred Lothar Wegener Geographical vicariance Mechanism of nautical selection Wallace's line Range disjunction Ecology - definition Ecosystem - definition Biocenosis, biotope Individual, population Species Population and its characteristics K and r life strategy Natural selection and its types Radiation and introgression speciation Specialisation due to causation Ring speciesRate of speciation Ecological nicheEcological tolerance range Eurybionts vs. Stenobionts Trophic levels in an ecosystem Primary production Mimicry and mimicry Convergence and its examples

	Ecological succession Metapopulation Biomes - Raunkiaer life forms Why are plant leaves larger the closer to the equator? In which places (biomes) is primary production highest? Biodiversity and its componentsHow much land is currently directly used by humans? Anthropogenic biomes Construction of a socio-ecological niche Extinction of megafauna Biomass proportions between humans, livestock and wildlife Columbian exchange - what is it and how has it affected the biosphere? The state of the biosphere according to anthropoecology Geobotany Factors influencing the distribution of plant formations on Earth Biomes
Work placement	Not applicable

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