University of Gdańsk

Subject card

Subject name and code	Biogeography - laboratory, PG_00119850						
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	1.0			
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	0.0	0.0	15.0	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		0.0		15.0	30
Subject objectives	Exercises in the course Biogeography are designed to deepen theoretical knowledge through practical application.The objectives of the course are:- to understand the general regularities of species distribution, - to explain the most important connections between biotic and abiotic elements of the natural environment,- present the role of human influence in the transformation of the biosphere.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU5] implementation of a problem task
	[GEOGRL3-U06] apply methods and research tools of geographic sciences, including conducting observations and field measurements, and assess their suitability for the tasks in which the application objective of geography can be achieved	Can apply research methods and tools for the acquisition of knowledge on the distribution and identification of selected plant and animal species, and the principles and objectives of monitoring selected species and habitats natural habitats.	[SU2] presentation/project/paper/ report [SU3] text preparation/written work
	[GEOGRL3-U08] use scientific language and express themselves and discuss topics concerning geographic issues in Polish and in a foreign language	The student understands biogeographical terminology and is able to use it in a specific context. Can use scientific language and speak and discuss on topics concerning selected aspects of biogeography in Polish and foreign language	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
	[GEOGRL3-U02] formulate and analyze basic problems concerning changes in physical and geographic conditions and the social, economic and political situation in local, regional and global scales	Student knows the mechanism of climate change and its impact on the biosphere, can assess the negative and positive impact of humans on the environment, knows the basic issues of environmental protection and natural resource management, understands complex ecosystem interactions. Be able to formulate and analyse problems concerning the disappearance of biotic diversity and its impact on the social, economic and political situation locally and globally.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU8] observation of student's independent or team work
	[GEOGRL3-U05] find and select the necessary information from professional literature and other sources, including electronic sources	Can use scientific literature and electronic databases to explain issues related to the protection of the biosphere and the distribution of of organisms on Earth.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
	[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	Student understands the interrelationships between nature and its anthropogenic transformation that have taken place in the past in different places on Earth.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report [SW5] implementation of a problem task
	[GEOGRL3-U03] use theoretical knowledge of geographic sciences and available sources of information to correctly interpret basic natural, social, economic and political processes	Student understands the complex interactions between biogeographical and socio-economic processes and is able to use appropriate places to find this type of information.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
	[GEOGRL3-K02] bear full responsibility for the actions taken actions and adhere to the principles of professional ethics and principles of intellectual honesty, is aware of the importance of a professional approach in professional life professional life	Is prepared to adopt lifelong lifestyles to protect the natural environment and to foster scientific knowledge regarding the proper treatment of nature and the ecosystem services it provides.	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
	[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	Students will have basic use of Geographical Information Systems and publicly available databases on the environment.	[SW2] presentation/project/paper/ report [SW5] implementation of a problem task

Subject contents	- History of biogeography. Origins of modern historical biogeography.- The foundations 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 due to their isolation, limited space and specific environmental conditions.- Migration of organisms.- 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
Report	51.0%	50.0%
Presentation	51.0%	50.0%

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 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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