


KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
Unię Europejską w ramach
Europejskiego Funduszu
Społecznego

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY


Course title		ECTS code	
The impact of climate change on living organisms		13.1.1564	
Name of unit administrating study			
null			
Studies			
faculty	field of study	type	drugiego stopnia
Wydział Biologii	Biologia	form	stacjonarne
		specjalty	wszystkie
		specialization	wszystkie
Teaching staff			
prof. dr hab. Dariusz Jakubas			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		2	
Lecture		Estimation of working time:	
The realization of activities		Attending class - 15 hrs.	
classroom instruction		Written assessment - 1 hour.	
Number of hours		Consultations - 9 hrs.	
Lecture: 15 hours		Independent work (preparing a multimedia presentation) - 15 hours.	
		Preparing to the written assessment - 10 hours.	
		TOTAL: 50 hrs	
The academic cycle			
2022/2023 winter semester			
Type of course		Language of instruction	
an elective course		english	
Teaching methods		Form and method of assessment and basic criteria for eveluation or examination requirements	
Lecture with a multimedia presentation. Students' talks with multimedia presentation preceded by own work and consultations with the lecturer. Discussion.		Final evaluation	
		Graded credit	
		Assessment methods	
		- assignment work – project or presentation - Written credit, paper. Determining the final grade on the basis of the partial grades of the written exam and the paper.	
		The basic criteria for evaluation	
		Prerequisites for passing the course: - written assessment of the lecture part - quality of the prepared multimedia presentation - attendance at classes: - a student is obliged to attend classes, and in case of absence it should be excused in accordance with §11 of the UG Study Regulations - the condition to pass a lecture is attendance at at least 80% of classes - a student is obliged to compensate for the lack of knowledge and skills caused by absence in class in a manner and time indicated by the instructor	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements			
none			
B. Prerequisites			
knowledge of the English language sufficient to allow easy reading of scientific texts			

Aims of education Understanding the direct and indirect effects of climate change on organisms. Knowledge of the environmental risks of climate change. To expand the knowledge of specialized scientific literature, and language used in scientific works. To acquire the ability to analyse review or experimental papers written in English and to improve presentation and discussion skills	
Course contents Climate as an environmental change agent; direct and indirect effects of climate change on different groups of organisms, effects of climate change on biodiversity; effects of climate change on the physiology of organisms; environmental changes in different habitats; consequences of sea level change; match-mismatch concepts; groups of organisms most vulnerable to climate change; scenarios for further climate change	
Bibliography of literature A. Literatura wymagana do ostatecznego zaliczenia zajęć (zdania egzaminu): A.1. wykorzystywana podczas zajęć Pearce-Higgins, J. W., & Green, R. E. (2014). Birds and climate change: impacts and conservation responses. Cambridge University Press Simpkins, M., Kovacs, K. M., Laidre, K., & Lowry, L. (2009). A framework for monitoring arctic marine mammals. https://www.ncdc.noaa.gov/sotc/ - The State of the Climate is a collection of monthly summaries recapping climate-related occurrences on both a global and national scale. https://climate.nasa.gov/ - Global Climate Change http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml - The Intergovernmental Panel on Climate Change https://www.carbonbrief.org/category/science - Carbon Brief is a UK-based website covering the latest developments in climate science, climate policy and energy policy. https://www.nceas.ucsb.edu/science/climate# - Researchers at NCEAS have produced a groundbreaking body of research exploring the effects of climate change on organisms and their environment. http://naukaoklimacie.pl/ - Popularno-naukowy portal. A.2. studiowana samodzielnie przez studenta Pearce-Higgins, J. W., & Green, R. E. (2014). Birds and climate change: impacts and conservation responses. Cambridge University Press Simpkins, M., Kovacs, K. M., Laidre, K., & Lowry, L. (2009). A framework for monitoring arctic marine mammals. Van Gils J. A., Lisovski S., Lok T., Meissner W., Ożarowska A., de Fouw J., Rakhimberdiev E., Soloviev M. Y., Piersma T., Klaassen M. 2016. Body shrinkage due to Arctic warming reduces red knot fitness in tropical wintering range. Science 352 (6287): 819-821 https://www.ncdc.noaa.gov/sotc/ - The State of the Climate is a collection of monthly summaries recapping climate-related occurrences on both a global and national scale. https://climate.nasa.gov/ - Global Climate Change http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml - The Intergovernmental Panel on Climate Change https://www.carbonbrief.org/category/science - Carbon Brief is a UK-based website covering the latest developments in climate science, climate policy and energy policy. https://www.nceas.ucsb.edu/science/climate# - Researchers at NCEAS have produced a groundbreaking body of research exploring the effects of climate change on organisms and their environment. http://naukaoklimacie.pl/ - Popularno-naukowy portal. B. Literatura uzupełniająca Piśmiennictwo dobierane do tematów poszczególnych zajęć, stosownie do problematyki planowanych prezentacji	
The learning outcomes (for the field of study and specialization) The course realizes the following effects: - universal and area-specific effects (PRK): P7U_W, P7S_WG, P7S_UW, P7U_U, P7S_UK, P7S_KK - specific for the study biology: B2_W01, B2_W02, B2_W03, B2_W04, B2_W05, B2_W08, B2_U02, B2_U03, B2_U07, B2_U08, B2_U10, B2_K05, B2_K07	Knowledge - Knows and understands to a deeper and more comprehensive degree natural phenomena and processes at different levels of complexity (B2_W01) - Knows and understands the principle of strict, empirically based interpretation of biological phenomena and processes in research work and practical activities (B2_W02) - Knows and understands research problems at the frontiers of the biological sciences that require the use of advanced tools (B2_W03) - Possesses in-depth knowledge of the chosen specialty of biological sciences (B2_W04) - Recognizes the dynamic development of the biological sciences and new research directions and disciplines (B2_W05) - Knows the variety of contemporary experimental approaches and techniques
	Skills - Can use the scientific literature of the biological speciality studied in an efficient manner (B2_U02) - Is able to critically analyze and select biological information, especially from electronic sources (B2_U03) - Is able to critically confront biological information from a variety of sources and draw sound conclusions based on that information (B2_U07) - Is able to present research work in the field of the chosen speciality of biological sciences using the means of verbal communication and multimedia (B2_U08) - Can prepare oral presentations in Polish and foreign language concerning specific issues in the field of selected specialization (B2_U10)
	Social competence - Is prepared to use credible sources of scientific and popular information in the biological sciences to expand knowledge (B2_K05) - Is prepared to update systematically biological knowledge and its practical applications (B2_K07)
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