



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez
Unię Europejską w ramach
Europejskiego Funduszu
Społecznego

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Course title		ECTS code	
Human Biometeorology		7.1.0513	
Name of unit administrating study			
Faculty of Oceanography and Geography			
Studies			
faculty	field of study	type	all
Faculty of Oceanography and Geography	Geography, Spatial Management, Socio-economic geography with elements of GIS, Physical geography and geoinformation	form	all
		specjalty	all
		specialization	
			all
Teaching staff			
dr Małgorzata Owczarek			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		2	
Wykład (to translate)			
The realization of activities			
lectures in the classroom			
Number of hours			
Wykład (to translate): 15 hours			
2021/2022 summer semester			
Type of course		Language of instruction	
elective (to translate)		english	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
<ul style="list-style-type: none"> - Dyskusja (to translate) - Wykład problemowy (to translate) - Wykład z prezentacją multimedialną (to translate) 		Final evaluation	
		Egzamin (to translate)	
		Assessment methods	
		<ul style="list-style-type: none"> - egzamin pisemny (dłuższa wypowiedź pisemna / rozwiązanie problemu) (to translate) - egzamin pisemny z pytaniami (zadaniami) otwartymi (to translate) 	
		The basic criteria for evaluation	
		To achieve the final grade – result at least 50%	
Sposób weryfikacji założonych efektów kształcenia (DO TŁUMACZENIA)			
Required courses and introductory requirements			
A. Formal requirements			
The basics of physical geography, the basics of mathematics			
B. Prerequisites			
General knowledge of physical geography			
Aims of education			
Aims of education			
<ul style="list-style-type: none"> - to explain the basic terms related to meteorology relevant to human organism - to describe the terms related to health effects of meteorological patterns - to explain the principles of heat exchange between the human organism and the environment - to collect and clarify various methods of assessment of biometeorological conditions 			

- to be aware of hazards related to weather, climate and climate change

Course contents

Course contents

- place of biometeorology among the other sciences
- some examples of sources of information relating to biometeorology
- health effects of different patterns: solar radiation, air pressure, air movement, noise, air pollution, pollen
- the heat exchange between the human body and the thermal environment
- selected models of human heat exchange, application of the MENEX model
- calculating and application of selected basic biometeorological indices (such as; Hill's cooling power, Effective temperatures, Humidex, WCI, WBGT)
- calculating and application of selected bio-thermal indices (such as: PMV, PET, PhS, PST, HSI, UTCI)
- direct and indirect health effects of weather and climate patterns
- the health effects of severe weather events (such as: heat waves, frosts, heavy rainfall)
- the impact of climate change impact on human life

Bibliography of literature

Bibliography of literature

- Ebi K.L., Burton I., Mc Gregor G. (ed.), 2009 Biometeorology for Adaptation to Climate Variability and Change, Springer Science+Business Media B.V.
- Auliciems A., De Dear R., Fagence M., Kalkstein L.S., Kevan S.D., Szokolay S.V., Webb A.R., 2011 Advances in Bioclimatology vol. 5: Human Bioclimatology, Springer-Verlag Berlin and Heidelberg GmbH & Co. KG.
- Alcamo J., Olesen J. E., 2012, Life in Europe Under Climate Change, Wiley-Blackwell.
- Błażejczyk K., Jendritzky G., Broede P., Fiala D., Havenith G., Epstein Y., Psikuta A., Kampmann B., 2013, An Introduction to the Universal Thermal Climate Index (UTCI), Geographia Polonica 2013, 86, 1, pp. 5–10.
- International Journal of Biometeorology – selected articles.
- BioKlima software: www.igipz.pan.pl/Bioklima-zgik.html.

Geografia licencjat / Geography BA - K_W06, K_W08 (P6U_W, P6S_WG, P6S_WK); K_U01, K_U03 (P6U_U, P6S_UW); K_U04, K_U05 (P6U_U, P6S_UW, P6S_UO, P6S_UU); K_K04 (P6U_K, P6S_KO)

Gospodarka przestrzenna/ Spatial management BA - K_W03, K_W09 (P6U_W, P6S_WG, P6S_WK), K_U02, K_U03, K_U04 (P6U_U, P6S_UW); K_K02

Gospodarka przestrzenna/ Spatial management K_W03, K_W09 (P6U_W, P6S_WG, P6S_WK), K_U02, K_U03, K_U04 (P6U_U, P6S_UW); K_K02

Geografia fizyczna z geoinformacją/ Physical geography with geoinformation K_W02 (P7U_W, P7S_WG), K_W08 (P7U_W, P7S_WK); K_U01 (P7U_U, P7S_UW), K_U03, K_U04 (P7U_U, P7S_UW, P7S_UK); K_U04 (P7U_K, P7S_KK), K_K02 (P7U_K, P7S_KO)

Geografia społeczno-ekonomiczna z elementami GIS/ Socio-Economic Geography with GIS topics K_W03 (P7U_W, P7S_WK), K_U02, K_U05 (P7U_U, P7S_UW); K_K03 (P7S_KO)

Knowledge

- W1 Students have clear knowledge in the field of the basic terms related with biometeorology that is necessary for understanding the basic processes between the human body and the environment
- Geografia licencjat / Geography BA K_W06
Gospodarka przestrzenna/ Spatial management BA K_W03
Gospodarka przestrzenna/ Spatial management K_W03
Geografia fizyczna z geoinformacją/ Physical geography with geoinformation K_W02
Geografia społeczno-ekonomiczna z elementami GIS/ Socio-Economic Geography with GIS topics K_W03
- W2 Students understand and correctly describe the health effects of selected meteorological stimuli and effects of weather and climate patterns, students define selected biometeorological indices
- Geografia licencjat / Geography BA K_W08
Gospodarka przestrzenna/ Spatial management BA K_W09
Gospodarka przestrzenna/ Spatial management K_W09
Geografia fizyczna z geoinformacją/ Physical geography with geoinformation K_W08
Geografia społeczno-ekonomiczna z elementami GIS/ Socio-Economic Geography with GIS topics K_W03

Skills

- U1 Students identify basic features of the impact of biometeorological conditions on human beings and analyze their variability
- Geografia licencjat / Geography BA K_U01
Gospodarka przestrzenna/ Spatial management BA K_U02
Gospodarka przestrzenna/ Spatial management K_U02
Geografia fizyczna z geoinformacją/ Physical geography with geoinformation K_U01
Geografia społeczno-ekonomiczna z elementami GIS/ Socio-Economic Geography with GIS topics K_U05
- U2 Students conduct simple assessment of bioclimatic conditions under the supervision of a scientific supervisor
- Geografia licencjat / Geography BA K_U03, K_U04

Gospodarka przestrzenna/ Spatial management BA K_U03,
 Gospodarka przestrzenna/ Spatial management K_U03
 Geografia fizyczna z geoinformacją/ Physical geography with geoinformation K_U03
 Geografia społeczno-ekonomiczna z elementami GIS/ Socio-Economic Geography with GIS topics K_U05
 U3 Students are capable of using information from scientific publications and other sources
 Geografia licencjat / Geography BA K_U05
 Gospodarka przestrzenna/ Spatial management BA K_U04
 Gospodarka przestrzenna/ Spatial management K_U04
 Geografia fizyczna z geoinformacją/ Physical geography with geoinformation K_U04
 Geografia społeczno-ekonomiczna z elementami GIS/ Socio-Economic Geography with GIS topics K_U02

Social competence

K1 Students will be aware of the risks related to weather and climate, will develop their social responsibilities and will be able to consider different points of view and to engage the discussion on the impact of climate change on human life
 Geografia licencjat / Geography BA K_K04
 Gospodarka przestrzenna/ Spatial management BA K_K02
 Gospodarka przestrzenna/ Spatial management K_K02
 Geografia fizyczna z geoinformacją/ Physical geography with geoinformation K_K02
 Geografia społeczno-ekonomiczna z elementami GIS/ Socio-Economic Geography with GIS topics K_K03

Contact

malgorzata.owczarek@ug.edu.pl