



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez
Unię Europejską w ramach
Europejskiego Funduszu
Społecznego

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Course title		ECTS code	
Meteorology and climatology		7.2.0570	
Name of unit administrating study			
Faculty of Oceanography and Geography			
Studies			
faculty	field of study	type	pierwszego stopnia
Wydział Chemii	Ochrona środowiska	form	stacjonarne
		specjalty	Podstawowa
		specialization	Podstawowa
Teaching staff			
dr Mirosława Malinowska; dr Małgorzata Owczarek; prof. dr hab. Mirosław Miętus			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		4	
Auditorium classes, Lecture		15 h of lecture - 0,5 ECTS	
The realization of activities		30 h of audytorium classes - 1 ECTS	
classes outside UG premises, classroom instruction		15 h of tutorial classes - 0,5 ECTS	
Number of hours		50 h of student's own work - 2 ECTS	
Lecture: 15 hours, Auditorium classes: 30 hours		TOTAL: 110 h - 4 ECTS	
The academic cycle			
2022/2023 summer semester			
Type of course		Language of instruction	
obligatory		polish	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
<ul style="list-style-type: none"> - group work - multimedia-based lecture - problem solving - project-based method (research, implementation, practical project) 		Final evaluation	
		<ul style="list-style-type: none"> - Graded credit - Examination 	
		Assessment methods	
		<ul style="list-style-type: none"> - ssignment work – conducting research and presenting results - written exam with open questions - assignment work – project or presentation - assignment work – completing a specific practical assignment - written exam (test) - oral course credit 	
		The basic criteria for evaluation	
		The basic criteria for evaluation A lecture: Obtaining a positive mark from the examination, reflecting the achievement of the assumed educational results in the scope of knowledge, skills and competences of the student. Exercises: timeliness, completeness and correctness of the tasks performed, obtaining a positive assessment of all the tasks performed within the framework of the exercises and positive assessments of the colloquia.	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements B. Prerequisites Required courses and introductory requirements Basic knowledge in mathematics and statistic			

Basic knowledge about atmosphere from geography, about ideal gases physics on the level of secondary school	
Aims of education	
<p>Aims of education</p> <p>Lecture: basic knowledge about the atmosphere and its processes. Recognition and interpretation of meteorological phenomena and processes in connection with the state of the natural environment. Determination of the effects of weather conditions on the geographical environment, economy and human health.</p> <p>Exercises: getting to know basic sources of information in meteorology and climatology. Learning the main principles and objectives of meteorological observations. The ability to preliminarily process meteorological data and analyse climatological time series.</p>	
Course contents	
<p>Course contents</p> <p>A. Lecture's problems</p> <p>A.1. Subjects of meteorological and climatological research</p> <p>A.2. Atmosphere (its structure and characteristics, antropogenic changes of atmospheric components)</p> <p>A.3. Radiation of the Sun, the Earth and its atmosphere</p> <p>A.4. Heat balance of the Earth surface</p> <p>A.5. Water in the atmosphere</p> <p>A.6. Adiabatic processes</p> <p>A.7. Atmospheric circulation</p> <p>A.8. Selected issues of climatology (climatic processes and factors, local climate features, zonal and non-zonal climatic factors, climate of Poland, global climate change)</p> <p>B. Task's problems</p> <p>B.1. Organization of meteorological observation networks in Poland</p> <p>B.2. Basic sources of data in climatology</p> <p>B.3. Meteorological elements – basic information about methods of observation and data processing</p> <p>B.4. Basic statistical and graphical methods of data processing in meteorology.</p>	
Bibliography of literature	
<p>Bibliography of literature</p> <p>Literature required to pass the course</p> <p>Kożuchowski K., 1998. Atmosfera, klimat, ekoklimat. Wydawnictwo Naukowe PWN.</p> <p>Kożuchowski K. (red), 2005, Meteorologia i Klimatologia, PWN</p> <p>Woś A., 2000. Meteorologia dla geografów. Wydawnictwo Naukowe PWN.</p> <p>Extracurricular readings</p> <p>Bac S., Koźmiński C., Rojek M., 1998. Agrometeorologia. Wydawnictwo Naukowe PWN.</p> <p>Kożuchowski K., 2011, Klimat Polski. Nowe spojrzenie, PWN</p> <p>Lorenc H. (red), 2005, Atlas klimatu Polski, IMGW.</p> <p>Martyn D., 2000, Klimaty kuli ziemskiej, PWN</p> <p>Niedźwiedz T. (red.), 2003 Słownik meteorologiczny. PWN.</p> <p>Schoenwiese Ch-D., 1997. Klimat i człowiek. Prószyński i S-ka.</p> <p>Pruchnicki J., 1989. Metody opracowań klimatologicznych. PWN.</p> <p>Ustrnul Z., Czekierda D., 2009, Atlas ekstremalnych zjawisk meteorologicznych oraz sytuacji synoptycznych w Polsce, IMGW</p> <p>Woś A., 1999. Klimat Polski. Wydawnictwo Naukowe PWN.</p> <p>Woś A., 2010. Klimat Polski w drugiej połowie XX wieku. Wydawnictwo Naukowe UAM.</p>	
The learning outcomes (for the field of study and specialization)	Knowledge
	Skills
	Social competence
Contact	
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